The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 139; NO. 3 — CHICAGO, ILLINOIS — JANUARY 15, 1949

COPYRIGHT, 1949, BY AMERICAN MEDICAL ASSOCIATION

NAZI WAR CRIMES OF A MEDICAL NATURE

Some Conclusions

A. C. IVY, M.D.
Chicago

I believe that the subject of this paper contains a lesson which every adult American should know and never forget. I believe that this is true because every informed person knows that at one time the German medical profession had no superior. Physicians throughout the world had the greatest respect for German medicine and its scientific and humanitarian contributions. Everyone knows that the German people in supporting the Nazi régime sowed the wind and reaped the whirlwind, but few persons know what happened to German medicine under the Nazi régime. Hence, it is important for the general public as well as the medical profession of our country to know how a once great and good medical profession was degraded by German National Socialism under the force and compulsion of the Nazi régime.

139
49

CONTACTS WITH THE WAR CRIMES OF A MEDICAL NATURE

My first contact with the war crimes of a medical nature came when I was a consultant to the Bureau of Medicine and Surgery of the United States Navy. As our troops advanced into Germany, they were accompanied by scientists whose function was to collect scientific data and documents or any other information which might help us complete the war against the Japanese. Among the documents found and submitted to me for an opinion regarding the trustworthiness of the data were several by the infamous Dr. Rascher. These documents revealed that he had experimented on political prisoners without their consent. In one experiment he had killed prisoners by exposing them to cold and in another to a very high altitude in an altitude chamber.

My next contact with these Nazi medical crimes occurred when the Secretary of War through the Surgeon General of the Army asked the Board of Trustees of the American Medical Association to nominate a person to serve as an expert medical advisor to the prosecution at the Nürnberg Medical Trial. When I went to Germany in July 1946, in the capacity just indicated, I visited several documentation centers, read many documents of a medical nature and discussed their contents with the American attorneys. I then found that, under the orders of Himmler, experimental laboratories had been established at several concentration camps.

I returned to Germany to consult with the attorneys in January 1947, when the prosecution had about completed the presentation of the documents submitted in evidence. I returned again in June 1947, to serve as an expert witness. Expert rebuttal testimony was required regarding certain technical subjects and the principles of medical ethics. Rebuttal evidence regarding medical ethics was required because the German attorneys were claiming that American physicians had done the same thing that the Nazi physicians had done.

MEDICAL ETHICS AT THE NÜRNBERG TRIALS

In the course of this testimony, two precedents were broken. For the first time in Germany legal procedure the Court permitted the defendants to cross examine the witness. This was eminently fair. As a result, I was cross examined by Dr. Ruff, who was in charge of the experimental aspects of German aviation medicine, Professor Rose, vice president of the Robert Koch Institute for Infectious Diseases in Berlin, and Dr. Bieglbock, professor of medicine at the University of Vienna. For the first time in the course of the War Crimes Trials at Nürnberg the contrast between totalitarian and democratic ideology was presented and developed. This was necessary because of the introduction of the subject of medical ethics into the case. In contrast to the ideology of the totalitarian state, medicine in the democratic state has never been allowed to forget the individual. The physician has always had to face the individual. Taking care of the sick is an individual matter. The doctor-patient relationship and the patient's free choice of a physician are individual matters, and medical ethics, like true democracy, teaches that they must be held inviolate. These well known principles of medical ethics had to be pointed out to the Court. In addition, it was obviously necessary to establish the actual ethical conditions under which human subjects may serve as subjects in medical experiments.[1]

TOTALITARIAN PHILOSOPHY

During this cross examination, the questions of the German attorneys clearly reflected the thinking of Nazism and totalitarianism; namely, that superior orders, regardless of all considerations, must be obeyed and that the end justifies the means. This is illustrated by the following exchange of questions and answers. The German attorney inquired, "If you were ordered by a high political or military leader to perform an experiment which you know in advance would cause the death of three persons and the results of which would save the life of twenty thousand, would you perform the

Vice President and Head of the Department of Clinical Science, University of Illinois, Chicago.
Read at the Interim Session of the American Medical Association, St. Louis, Dec. 2, 1948.

1. Ivy, A. C.: The History and Ethics of the Use of Human Subjects in Medical Experiments, Science **108**: 1, 1948. Berghoff, R. S., and others: Ethics Governing the Service of Prisoners as Subjects in Medical Experiments, J. A. M. A. **136**: 457 (Feb. 14) 1948

experiment?" I did not stop to point out the actual scientific impertinence of the question, but proceeded to answer it on the basis of its ethical and material implications. I replied, "There is no political and military leader under the sun who could order or otherwise compel me to perform an experiment contrary to my moral convictions." The attorney inquired, "So then you would be shot?" I replied, "Yes, and in so answering I feel certain that I speak for thousands of people who live in the United States."

TWO CATEGORIES OF NAZI MEDICAL CRIMES

Elsewhere [2] I have pointed out that the medical crimes could be classified into two categories, namely, the nonexperimental and the experimental. In the same publication, I gave several examples of each, which need not be reiterated here.

Nonexperimental Crimes; Mass Killings and Euthanasia.—However, I should again point out that the mass killings—the gassing chambers—were related to the euthanasia edict secretly issued by Hitler in 1939. Paradoxically, German criminal law as late as 1945 held that euthanasia constituted murder and that "the law must take care not to shatter the confidence of the sick in the medical profession." Medical ethics pledges that physicians are conservators rather than destroyers of life. In my opinion medicine is doomed if it ever consents to take part or permits any member in good standing to take part in a program of euthanasia applied for socioeconomic purposes. If euthanasia is ever introduced for such purposes, medicine should have none of it. Medicine should let the persons responsible for introducing it do the killing. *Physicians are conservators, not destroyers, of life.*

Crimes Experimental in Nature.—Most but not all of the experimental crimes involved a search for the answer to a worthy medical question. They were criminal in that they were conducted on human subjects without their consent and in many instances without giving them as much consideration as is given experimental animals.

ANALYSIS OF THE CAUSES OF THE NAZI MEDICAL CRIMES

As a medical scientist, I could not be exposed to these atrocities of a medical nature without trying to determine their causative background. There were three questions for which I believed an answer could be established by documentary evidence. I shall proceed to ask and answer these three questions and then consider a fourth question.

(*a*) *Why were the experimental laboratories established at the concentration camps under the Nazi-SS Division?* This was a natural question because the Luftwaffe, like our own Air Force, had its own experimental laboratories. The Wehrmacht, like our Army, had its experimental laboratories. Why then was an aviation laboratory established in the concentration camp at Dachau by the SS? The Wehrmacht had a typhus laboratory at Krakow. Why then was a typhus laboratory set up at Buchenwald concentration camp?

One reason was clearly stated in a letter written by Himmler. This letter stated in effect that the Nazi-SS physicians and scientists must have laboratories so that they could demonstrate to the German people and the world that they too could make discoveries, as well as the scientists of the universities, army and air force. This is definitely a political reason, and other evidence supporting this is in the Court records. Another reason given for establishing the experimental laboratories at the concentration camps was that results could be obtained more quickly and surely by doing the experiments on human subjects rather than on monkeys, dogs, cats and rabbits.

(*b*) *What sort of people worked in these Nazi-SS laboratories?* The documents clearly revealed that some persons—scientists and pseudoscientists—worked there for reasons of political preferment, others because they had a gun at their head, and a few because their scientific curiosity submerged their morals. Still others rationalized their behavior on the basis of the philosophy that the end justifies the means or that if euthanasia is right, as it has been so considered by some in England and the United States as well as in Germany, then it is right to take the life of political prisoners destined to die sooner or later.

(*c*) *Is there any wonder that nothing of scientific value came from these laboratories?* How can honest results come from such a dishonest situation? Because of the difficulties of medical research, it is not easy to get reliable results when all concerned are strictly honest. I shall cite only one illustration of the tragically dishonest behavior that went on in these concentration camp laboratories. This example occurred in the typhus laboratory at Buchenwald and was related by one of the witnesses. "Dr. Ding, being placed under pressure by the Hygienic Institute in Berlin, demanded that we produce large quantities of typhus vaccine for the fighting troops. From that moment, we produced systematically two types of vaccine. One type was perfectly harmless but had no value. This was produced in large quantities and sent to the front. A second type was produced in small quantities by the American method and was highly effective. It was used only for special cases, and we, too, who worked in block 50 were repeatedly vaccinated with the potent vaccine." Other examples of dishonesty are in the Court record.

A fourth question could not be answered by documentary evidence. Four factors to be mentioned were presumptively concerned. This question was: *What was the causative background of the experimental atrocities in which some 100 physicians were concerned?* Why in a number of cases were recent medical graduates directed to operate and develop surgical skill on prisoners who required no operation? I sought an answer to this question by discussions with German physicians, with prisoners, with German refugee physicians, with a Swedish physician and with American physicians who had received medical training in Germany. Several factors emerged from these discussions. The first factor which emerged was that the compulsory sickness insurance system of medical care after operating over a period of years led to a debased regard for the poor and underprivileged patient. Patients were too frequently treated as numbers rather than individual human beings with inalienable rights and dignity. A second factor was the ideology of the *Herrenvolk*, which morally is intimately related to a debased regard for the poor and underprivileged. A third factor was the practice of euthanasia, which when joined with the first two factors logically leads to the mass killing of the aged, the chronically ill, "useless eaters" and the politically undesirable. A fourth factor was frequently mentioned, namely, the welfare of the armed forces was the supreme good and anything which helped or might help the armed forces was right. This illustrates again the philosophy that the end justifies the means.

2. Ivy, A. C.: Nazi War Crimes of a Medical Nature, Federation Bull. **33**:133, 1947.

MOST OF GERMAN MEDICINE REMAINED ETHICAL

It should be emphasized that the larger portion of German medicine remained ethical. It is also important to know that legitimate medical investigation was conducted in Germany during the war and, further, that a small group of physicians protested when they learned that prisoners were being used like animals in experiments in the concentration camps. Himmler called these physicians "traitors" and asked to be provided with a list of these persons with "Christian medical ideals."

WHAT HAPPENED TO ORGANIZED MEDICINE?

As might be expected, many German physicians did not know what was going on in the concentration camps during the war. The reason for this was evident. Soon after the Nazis assumed power they took over the control of the organized medical profession. This control gradually became more and more severe. It was not long before free scientific discussion and criticism was suppressed, and scientific medical meetings became infrequent and were poorly attended. Contrary to the precepts of medical ethics, a student had to be or have been a member of the Hitler Youth Movement. A medical graduate could not obtain an internship unless he was a party member. The important lesson to be learned from this is that a political ideology can insidiously take over a medical profession of high ideals and subvert some of the members of that profession so that they will take part in atrocities and place that profession in a position where it is unable to protest effectively.

IMPORTANCE OF MEDICAL ETHICS

My experience at the Nürnberg Medical Trials emphasized the great practical and humanitarian importance of medical ethics. It caused me to realize that my medical education in that regard had been deficient and that medical education today is negligent in teaching the young physician the relation of the ethics of medicine to the economics of medicine. The instruction to the layman has been neglected even more. The layman cannot be expected to understand the fact that medical economics is based on medical ethics, if the young physician does not understand it. It is difficult for many laymen and some young physicians to understand why an attempt to introduce commodity economics into medical practice has led to conflicts and difficulties. More instruction regarding the meaning of medical ethics should be given to the medical student and the layman.

THE CONTRIBUTIONS OF HIPPOCRATES

Though I had been in medicine for thirty years, I realized, for the first time at the Nürnberg Trials, the full meaning and importance of the contributions of Hippocrates and his school to medicine and human welfare.

Hippocrates contributed the scientific philosophy of medicine as we know it today when he taught that disease is due to material causes and not to evil spirits, witches or the wrath of gods. He contributed a technical philosophy when he taught that diligence, accuracy, thoroughness in observation and skill were essential for success in the practice of a science and art of medicine. He apparently realized that a scientific and technical philosophy of medicine could not survive through the ages unless it was associated with a sound moral philosophy. One cannot conceive of a sound society with medicine that does not have a sound moral philosophy.

A MATERIALISTIC SCIENTIFIC AND TECHNOLOGIC PHILOSOPHY HAS NO SURVIVAL VALUE

Similarly, I believe that no nation can expect to survive on the basis of a materialistic scientific and technical philosophy alone. Fascism and national socialism failed because they were devoid of a sound moral philosophy. Marxian or materialistic communism is doomed to fail because it has no moral philosophy. These totalitarian forms of government place the welfare of the state above that of the individual. They fail to consider the historical fact that every form of totalitarian government has sooner or later succumbed. They fail to consider the biologic fact of the "primacy of the individual." They fail to consider that the rest of the world suspects, resents and will line up against the super-race, or the group that would rule the world for its own aggrandizement or the allpowerful nation that takes more than it gives. We must accept the premise that human beings are in a practical sense free agents. The ultimate goal in social welfare is the maximum development of the individual. It would seem self evident that everything of value in human society depends on the opportunity for the development accorded to the individual.

THE INDIVIDUAL COMES FIRST IN MEDICAL ETHICS

Medicine or medical ethics concurs in placing the emphasis on the individual. Simply stated, medical ethics, or the Oath of Hippocrates, is the Golden Rule of the profession. It states how one physician would like to be treated by another physician and pledges that such ethical treatment should be extended to the patient. For twenty-two centuries, or since the formulation of the Oath of Hippocrates, the principal concern of medicine has been "the welfare of the patient." Of course, the prime social reason for the existence of the profession is "the service it can render to humanity" by maintaining health and postponing death. But this social purpose, except for certain aspects of preventive medicine, can be achieved only by dealing with the individual. The physician is obviously the only person who can be morally and legally responsible to his patient, and, conversely, the patient is morally and legally responsible to his physician. This physician-patient relationship can freely operate only where the free choice of a physician or clinic by the patient, and the free choice of a patient by the physician, except in an emergency, are unrestricted. Obviously a third party or agency cannot assume this confidential personal relationship and the moral responsibility involved.

IF MEDICAL ETHICS ARE ABROGATED CAN MEDICINE SURVIVE?

Though a reverence for the life of the individual is the basic aspect, the doctor-patient relationship and the free choice of a physician represent the realistic aspects of the moral philosophy of medicine. It is important to realize that these and a few other aspects of the ethics of medicine have survived for twenty-two centuries, and the chief reason they have survived is the enduring realistic fact "that a sick person requires the care of a specially trained person and that the sick person must trust and have a reason to trust the specially trained person." It follows presumptively that as long as this personal relationship exists in the

care of the sick, the same basic medical ethics are essential for the survival of the profession and the welfare of the sick.

Therefore, I believe that it is the duty of every physician to oppose any plan of medical care which would immediately or ultimately jeopardize the doctor-patient relationship and the patient's free choice of a physician or clinic, or lead to competition between physicians on the basis of fees rather than the quality of service or remove the control of the practice of medicine from physicians who are subject to the ethical code of medicine.

STATE MEDICINE AND COMPULSORY SICKNESS INSURANCE INTRODUCE DETERIORATING EVILS

Most systems of state medicine and compulsory sickness insurance introduce such deteriorating evils. It has been argued that these forms of medical practice lead ultimately to a deterioration in the morally responsible attitude of some physicians. This argument has not been seriously accepted by many laymen and by some physicians. These persons know that, at the present time under the existing medical code, the great majority of physicians are keenly aware of their moral as well as legal responsibility to their patients. They know that the physician is theoretically pledged to aid any sick or injured person, friend or foe, rich or poor, powerful or weak. They know that the ethics of the profession teach that no matter what system the physician is compelled to work under, the physician should do his best for the patient. In fact, the American Medical Association has said, in speaking against the evils of state medicine and compulsory sickness insurance, "If these (evil) things are embodied in legislation and become a part of the environment within which the profession must practice, there is scarcely any alternative except to continue to give the best service possible under such handicaps." [3]

But can these highly laudable ideals be maintained under a code of compulsory health insurance at the level at which they are maintained under the present medical code and practice systems? The evidence with which I am acquainted indicates that the answer to that question is NO.

I am convinced that the system of state medicine in Germany was in part the cause of the deterioration in the quality of German medicine and of the medical atrocities. But, as I indicated previously, state medicine was not solely concerned; there was also a general decline in moral and religious values, which probably precipitated a multitude of atrocities. How long medical ethics must be abrogated to lead to a significant deterioration of medical care is uncertain. Likewise, how long churches and other institutions standing for morality must be removed from a population to produce a Sodom and Gomorrah is also uncertain. It took the Russian Communists only about fifteen years to learn that unrestricted abortion was not good for Soviet Russia. Hippocrates knew that twenty-two centuries ago. Some who have visited Russia know that one can obtain "extra" medical and dental service for a "fee on the side."

These points are made to show again that there is more to medical care than scientific knowledge and skill. They also show that the environment in which the physician is raised and trained, as might be expected, has an effect on him and his activities regardless of the ethics of medicine. Scientific knowledge and skill in medicine have to be cultivated, nurtured and protected. Likewise, the moral and honorable aspects of medicine have to be cultivated, nurtured and protected. This is obviously accomplished more easily and successfully in a favorable than an unfavorable environment.

No group of citizens is more aware or can possibly be more aware of these facts than the men of experience and wisdom in the medical profession. The law can punish gross moral irresponsibility, but this is not enough. Who can cultivate, nurture and protect all of the aspects of medical care better than the medical profession? The profession is morally responsible for providing the public with the best possible medical care. The profession would be derelict in its duty if it yielded without vehement protest a major part of this responsibility to any other group, especially to one whose business and political ethics might be substituted for medical ethics.

Why should any government desire to change a system of medical practice against the recommendations of the large majority of the leaders of one of its most noble and conscientious professions? Medicine naturally resents any implication of its unwillingness to act for the best of the health welfare of the people. Medicine has cooperated and will continue to cooperate to solve health problems. But, because of its scientific training, it must be convinced by facts that a real problem exists. Many lay persons have not been trained scientifically and obviously do not know the meaning of scientific proof. Also, if a problem does exist, the profession must be certain that the proposed remedy will do no harm. The medical student and the physician, from the time he enters medical school until he retires from practice, is repeatedly told that his treatment should do no harm. This precept, introduced by Hippocrates, is ingrained in the mind of the profession, and only a misguided public would want its physicians taught any other therapeutic principle. Hence, the profession is naturally very cautious that a treatment proposed as a cure for a deficiency in medical care will not do more harm than good. Medicine, however, being an experimental science, like any other science, is willing to experiment on a small scale. The experimentation must be necessary, however, because living things are involved, and unnecessary experimentation on living things is cruel and brutal.

CONCLUSION

Regardless of the relatively excellent and steadily improving health of our people and the leadership which American medicine holds in world medicine, a better distribution of expensive diagnostic and therapeutic facilities is needed. This need, I believe, is recognized by the majority of physicians and is acutely felt by many of our citizens at the present time. In meeting these needs the great progress made under the present system of medical practice must not be forgotten or underestimated. Any new proposal must be carefully scrutinized lest it lead to a deterioration of medical care. The profession should oppose any false remedy or temporizing proposal. It is the moral duty of the profession to do so.

Any new plan for medical care or any significant change in the existing plan of medical care must by all tests preserve inviolate a reverence for the life

3. Economics and the Ethics of Medicine, Bureau of Medical Economics, Chicago, American Medical Association, 1941.

of the individual, the physician-patient relationship, the patient's free choice of a physician or clinic, the free enterprise system and the vesting in the profession of a major part of the responsibility for medical service and its financial reward. Unless this is done, I am convinced that the American public will have sold their medical birthright for a mess of pottage.

MEDICAL CARE OF THE NATION IN THE EVENT OF ANOTHER WAR

JAMES C. SARGENT, M.D.
Milwaukee

It is now barely a year since the Council on National Emergency Medical Service outlined its concept of its task to the Board of Trustees and the House of Delegates and started out toward its accomplishment. The survey that the association had just completed through the magnificent work of the Bureau of Medical Economic Research at the behest of the Bortz committee had pointed up in bold relief some revealing facts concerning the excessive procurement of civilian doctors for military duty in the recent war and, particularly important, some astounding facts concerning their incomplete and at times inept utilization.

Through the insatiable demands of the military establishment the civilian population was stripped of its physicians to a degree that invited national disaster. There remained but one physician, in many instances well along in years and in some even recalled from retirement, to take care of 1,500 civilians presenting all the many ills that beset people from the cradle to the grave. Had an epidemic occurred of the proportions of that afflicting the nation in World War I or had we suffered civilian casualties of the nature and extent anticipated if war is to come again, such an unbridled withdrawal of doctors from the factories, from farming communities and from the many other war-essential civilian groups would have undermined national health and morale with just as severe consequences as if our armies had been defeated in the field.

The responsibility for this dangerous withdrawal of civilian physicians rested largely on two things. Until Procurement and Assignment got under way in the middle war years, there was no authority in government even mildly interested in the medical needs of the civil population, and by then the damage had been done. More responsible still was a table of organizational figures and a pattern of deployment and utilization of medical personnel within the military that dated back to World War I and in some respects even to Civil War days. But little of the technologic advances of modern medicine had taken root in the services and nothing whatever had developed in the way of interservice coordination in care of sick and wounded. No wonder, then, that utilization of personnel was at low ebb and requirements inordinately high. No wonder, either, that the doctors of America are left today with what borders on an abhorrence for any part of military medicine.

Confronted with this situation, the Council on National Emergency Medical Service saw at once that two major objectives must be attained before the medical and health aspects of a program of national defense ever could be adequately developed. Requirements of medical personnel by the military establishment must be brought in balance with civilian needs. And to accomplish this the medical departments of the armed forces must be reorganized to make the best possible use of the medical personnel available. The Council was composed of men who had served in uniform, men who were still a part of the military organization of our country, men naturally sympathetic to the problems of the services. I reiterate that simply to tell our Army and Navy friends again and again that the critical and questioning attitude which the Council has displayed has not come naturally. It has had to act on the genuine apprehension that doctors feel for the health and security of this nation as the clouds of war again gather. It knows the sharply limited medical man power with which the nation will have to get along, whatever comes. It knows that another war would bring quick and stark disaster if the mistakes in procurement and utilization of the last war are repeated.

To avoid this, two developments within the Defense Establishment seemed to the Council to be essential. First, there must be a permanent board of top flight civilian physicians working arm in arm with the Surgeons General at high enough level within the military establishment to supersede the uninformed and often arbitrary authority of command. In no other way can the important matter of health care of fighting personnel be kept under medical control. In no other way can the medical departments of the armed forces have the benefit of the highly developed technical knowledge of civilian medicine. In no other way can the doctors of the nation have a proper part in their own destiny as the threat of war drives them into uniform. To be and remain genuinely effective this joint board must be directly advisory to the head of the military establishment, the Secretary of Defense. Second, there must be a group of civilian physicians at top level within government having the responsibility of weighing the medical man power needs of industry, agriculture and the civilian population at large, of research, public health work and medical education against the requirements of the military establishment. Under the National Defense Act of 1947 such a Board would fall logically within the structure of the National Security Resources Board, whose duty it is to advise the President on the utilization of all of the war-important resources of the nation.

Accordingly, the Council advised the Board of Trustees and the House of Delegates of the urgent need of these two boards within the Defense Establishment. The recommendations were adopted at the June session of the House of Delegates, and the Association promptly urged their appointment upon the President, the Secretary of Defense and the Chairman of the National Security Resources Board. I am particularly happy to add, too, that both of these recommendations apparently enjoyed the wholehearted and active support of Surgeon General Bliss of the Army, Surgeon General Swanson of the Navy and Surgeon General Grow of the Air Force, as well as those high in their service.

Word has been received from the Office of the Secretary of Defense that on November 9 Mr. Forrestal officially approved the appointment of a joint civilian-military board advisory to him. Invitations have been extended and public announcement of this new board and its terms of reference awaits the final acceptance of all who have been invited to serve. With these two boards appointed to serve officially in the Defense Establishment one could hardly doubt, it seems to me,

Presented before the Conference of State Medical Association Secretaries and Editors, St. Louis, Nov. 29, 1948.

that the medical aspects of the defense plans of the nation will stay in proper balance and that in the future doctors in uniform will be kept busy and at tasks for which they are peculiarly trained.

Before leaving this scanning record of the early work of the Council may I pay tribute to the Secretary of Defense. With several others, and then only for a brief spell, it was my privilege to speak personally with Mr. Forrestal but once nearly a year ago. From time to time since then, however, his keen discernment has been apparent in matters that have been of interest to this Council, leaving each of us with the conviction that at least the medical aspects of national defense are in understanding and able hands. The profession might well wish and work for his retention during these years of threatening war.

That brings me up to date and to the heart of my assigned subject.

A SPECIAL DRAFT FOR DOCTORS?

No one, it seems, has better than a gambler's guess as to whether war will again break upon us. War or no war, however, the country is embarking on a program of adequate military preparedness. A selective service act is already in force, and the Army, Navy and Air Force are presently in the throes of rapid expansion. That physicians are needed as part of that expansion is perfectly obvious, and many doctors are going into uniform in the months ahead. Make no mistake about that. This nation is in the habit of providing excellent care for its fighting men and we, of all people, would not have it otherwise. The fact that physicians always have volunteered for military duty and served in far, far greater proportionate numbers than those of any other walk of life is proof of that. Now once again, as the clouds of war thicken, the profession is faced with the moral and civic responsibility of seeing that there are doctors aplenty for the needs of the young manhood of America marching into service. If we are to be true to our heritage this movement must be voluntary, and it must be encouraged and guided by our great national association. Shame on the sons of Aesculapius if they ever bring this country to the necessity of a special draft. And double shame on this nation and its military men if, thoughtlessly and needlessly, they load its doctors with the onus of a special draft as a reward for the unusual sacrifices that they made in the last war.

Just how to avoid this impending debacle is a matter to which both the profession and the military must at once address themselves. It has implications that are far from reassuring to either party. The military might well recall the dissatisfaction and even disgust that were engendered in their medical reserves over the use that was made of them while in service and then contemplate the morale that would prevail in a medical corps drawn to that same sort of service and by an offensive and thoroughly discriminatory draft. Does the military desire that kind of a medical officer? On the other hand, the profession might well weigh the implications of a special draft of doctors—a draft not alone to treat soldiers and sailors but to supply medical care to several surprisingly large groups of nonmilitary personnel, veterans among them. Why not, then, another draft of doctors for service in our veterans hospitals? The Wagner-Murray-Dingel bills have been our nightmare for years, and here we stand on the very threshold of a form of Simon-pure federal medicine that would make monkeys out of the Falks and Cohens and Davises. There is no need to labor the point. Neither the military establishment nor the medical profession can let this thing happen. And I hasten to add that those high up in the medical departments of the three services are fully alert to the danger—far more so, I believe, than is our profession. You may disabuse your minds at once if you believe that drafting doctors is their choice.

INCREASING THE FLOW OF MEDICAL VOLUNTEERS

Late as the hour is, it still is not too late to start a flow of medical volunteers into the services in numbers sufficient to fulfil all genuine needs. Our military friends have been critical of the apparent indifference of this Council and the Association to their estimated needs. They have grown skeptical of the possibility of meeting their requirements in any other way than by draft. They have underestimated, I am sure, our anxiety over their problem and have failed to properly credit our method of approach to its solution.

At long last there now is a committee of civilian physicians officially advisory to the National Security Resources Board. At long last a joint civilian-military medical board is being created within the military establishment advisory directly to the Secretary of Defense. The establishment of these two advisory groups long has been declared essential before the profession ever would dare to cast lot with the military establishment in any program of procurement of medical personnel. Now that they have been established the whole problem turns to ways and means of helping the armed forces obtain the doctors they need.

This help can take two forms. Of course, the organized profession can and must undertake an active campaign at once to inspire large numbers of needed enlistments. More of that later. Of far greater importance, simply because it goes to the very heart of the problem, the profession both in and out of uniform must cooperate in critical study of the drawbacks to military medical service and join in a vigorous and positive program to make military medicine more attractive to doctors. Gentlemen, there never will be a real solution, nor will the level of medical and health care within the services be of the best, until medicine has been elevated to a position of proper importance within the military establishment and then purged of those of its objectionable features that make it necessary almost to rope and hog-tie a doctor to get him into uniform and keep him there.

Completely outstripping everything else, the one blight that rests deadeningly on the medical departments of the armed forces is their utter subservience to command. No one wearing the caduceus on a uniform has escaped this withering feeling—no one from the Surgeons General to the most junior of the services. One could dwell all evening on the details of this depressing situation. One could dwell, too, on the grave danger that lies in a system in which final judgment in matters affecting the health of fighting personnel remains subject to the whims of an officer of the line. I wonder how many of you have seen Circular No. 342, Department of the Army, dated November 1948. In the very face of the threat of a war, the medical and health aspects of which never before have been equaled, this most recent reorganization of the Department of the Army actually forbids the medical department direct access to the Chief of Staff and places the Surgeon General among the Technical Staff and Services under the direction and

control—yes, the direction and control—of the Director of Logistics. Now it may well be that in Civil War days when the medical department of the Army consisted of a few hastily acquired contract surgeons, medical service to the troops was simply a matter of logistics. But if modern medicine is to develop within the Defense Establishment as it most certainly must do in this age of atomic and biologic instruments of warfare, the position of the Surgeons General must be at top, not bottom, level. Last June the House of Delegates urged upon the President and Congress that the Surgeons General be elevated in rank and authority to the level of the Chiefs of Staff and the Chief of Naval Operations. Failing action, the same resolution will be introduced in this session and presumably again and again until the advice of American medicine is finally heeded.

There are many promising problems to challenge the thinking of a board of civilian physicians working arm in arm with the Surgeons General under the Secretary of Defense. I am sure there is none, however, that holds the same possibilities for great and lasting good that lie in seeking proper recognition of the importance of medicine in the armed forces of the future. Let us hope that that will be one of its major interests.

A well integrated program of career guidance within the services, offering opportunity for specialized training to certain properly selected medical personnel, is another most promising move toward improving the quality and the attractiveness of medical practice in the services. At the June meeting of the House of Delegates the Association went on record encouraging this forward looking development. It is regrettable to have to note, however, that its primary purpose of training specialists is becoming confused with personnel procurement and with a bureaucratic expansion of large military hospitals. The numbers and types of special trainees presently contemplated seem to go far beyond any reasonable needs of the regular services. And insufficient consideration seems to have been given to the possibilities that lie in carrying out this training program using civilian facilities already available and long experienced in that sort of work. In this connection it should be pointed out that young civilian physicians justly resent being asked to serve with the military and forego their own plans for special training just so that others within the services can become specialists. Particularly it should be pointed out that civilian physicians justly resent being asked to make the sacrifice of a tour of military duty on the basis of requirement figures that are inflated by a greatly expanded patient load made up of veterans, dependents and other nonmilitary personnel accepted in military hospitals to provide clinical material for their special training programs. This newly conceived special training program of the services is another important matter to be studied out carefully at the level of the Secretary of Defense between the Surgeons General and the leaders of civilian medicine. The program is much too worthy and much too essential to the future of military medicine to be placed in jeopardy by lopsided planning.

There are a number of other major matters that this joint board must interest itself in to improve the efficiency of the medical departments. Far, far better interservice coordination in the use of medical personnel and facilities can be attained. The Surgeons General working on the Hawley board have made a substantial beginning, but there is much yet that must be done. Genuine accomplishment along this line would reduce notably personnel requirements, improve materially the caliber of health care and enhance immensely the attractiveness of a medical career in all branches of service. Rank and pay commensurate with talent rather than with age in grade would do more to attract able young men to the services than most any other single thing. The American Medical Association lent substantial aid in the last Congress to secure an over-all increase of $100 a month in pay to medical officers, but much more must be done along this line to attract doctors to a career in the services. At least in times of peace, there must be more security of station and duty. And there are many other ways in which the effectiveness and the attractiveness of medical service within military can be improved to help meet the serious procurement problem facing the medical departments.

While there now seems great promise that many of these long needed changes are to be given fair consideration, they cannot be accomplished overnight. Meanwhile the nation is confronted with the threat of war, and its armed forces are faced with a serious problem in medical officer procurement, a problem that cannot await the careful and necessarily slow accomplishment of these important changes. The services have a genuine and urgent need for doctors and the American Medical Association and all of the state medical associations represented here today have a real responsibility in the matter. Of course, we shall remain critical of wastage of medical talent in uniform and we shall continue to protect the interests of the civilian population by questioning unreasonable requirements of doctors for the services. But America has determined on a program of immediate military expansion to meet the threat of a war. This very minute the flower of its youth is marching to battle stations with who knows what before it. There never was and there must never be a time when those of our profession remain unresponsive to the needs of men who are ordered to fight and die for our country. We have got, today, to face the fact that some of us again must leave home and practice and march wherever and through whatever those of the military must go.

I think I need not tell you that the Council on National Emergency Medical Service, the Trustees and Officers of our Association have been extremely busy for a year now acting on the determination of the profession to have a responsible part in the medical affairs of the military establishment. There are high ranking service men in this room who can testify to that. Indeed, the record itself tells the story. The Congress last spring refused to give the military establishment the unbridled authority over the profession that it sought. Several months ago a group of able physicians was appointed to the task of advising the President through the National Security Resources Board as to the overall medical needs of the nation. And now civilian medicine has been officially established on equal footing with the Surgeons General and advisory directly to the Secretary of Defense on medical matters within the Military Establishment. Those are the major objectives that American medicine set out to accomplish as the mistakes of the last war became clearly evident. They are recited here so that doctors and public alike may have assurance that a proper and much needed liaison has been established between profession and government; that the medical departments of the Army, Navy and Air Forces are to be less wasteful of medical talent, more efficient and more attractive to doctors and, finally, that a proper balance is to be struck between civilian and military needs if a war is to come again.

There is every promise that the present requirement figures will be materially reduced in the coming months through the activities of these two advisory boards. At the same time it is perfectly evident that the steady increase in troop strength under selective service and the steady loss of A.S.T.P. and V-12 doctors who are terminating their tour of obligated duty will combine to create a shortage that soon will become genuine and intolerable. The point will be made clear by stating that the Army alone will lose 2,150 of its present medical officers the first eight months of next year and all of that in the face of a steadily expanding troop strength. Under these circumstances, I should dislike very much the task of appearing again before the Armed Services Committees of Congress placing the American Medical Association in opposition to a special draft of physicians if voluntary enlistments continue at their present snail's pace. On the other hand I firmly believe that if a respectable flow of volunteers can be developed in the meantime, special medical draft legislation will never reach the coming Congress.

To those of you of our state associations and to the doctors in your state whom you represent, the choice is yours. It takes no prophet to sense the alternatives. Either our organizations set their strong backs to the wheel or we will be yanked out of our rut by the heavy machinery of government. Either the young men of our profession—those who escaped service in the recent war and especially those who were favored by deferment to finish their education—will awaken at once to a civic duty to which they are morally bound or they will bring the ignominy of compelled service upon themselves and their profession.

Which shall it be?

PHYSICIANS IN AN ATOMIC WAR

LEON O. JACOBSON, M.D.
Chicago
R. S. STONE, M.D.
San Francisco
and
J. GARROTT ALLEN, M.D.
Chicago

With the explosion of the first atomic bomb in New Mexico and thus the demonstration that the chain reaction is practical as a weapon of war, physicians and biologic scientists generally became an integral part of the development. To the many well known causes of medical casualties encountered in war and peace, such as blast injuries, penetrating wounds and thermal injuries, was added another—that of radiation injury.

Both the preclinical and clinical scientists are rapidly becoming acquainted with the biologic effects of radiations because (1) new types of penetrating radiations for therapy of cancer are being developed, radioisotopes are being more generally used for therapeutic and diagnostic purposes; both are being used as tools of fundamental research; and (2) the potential danger of actual atomic warfare makes knowledge of the biologic effects of radiations and methods of treatment an essential part of a physician's training. As a result, courses are being offered by universities, the Navy and the Atomic Energy Commission installations in order to make this knowledge more generally available.

Recently a series of stories appeared in the newspapers throughout the country on the picture which would obtain if atomic bombs were dropped on such cities as Chicago and New York. These stories were released at the time that a committee of medical experts met in Chicago to discuss preparedness for the eventuality of an atomic war.

The experiences gained at Hiroshima and Nagasaki have established certain facts which permit the formulation of certain broad principles to be followed if large cities are bombed. In the first place, it can be assumed, for the purposes of this discussion, that the amount of induced radioactivity or contamination with radioactivity in the vicinity of an explosion of an atomic bomb will be negligible. Therefore, teams of medical workers, etc., can immediately enter the area. This essentially reduces the problem to the treatment of external irradiation injury, thermal burns, blast injuries, penetrating injuries—in combination or alone. It is also clear that at the present state of our knowledge a large fraction (let us assume one third) of the population of a bombed city will be killed outright or will die in days to weeks no matter how soon they are brought under medical care. Another third of the population will survive if medical care is quickly and adequately provided, and the remaining third have a fair chance of surviving without medical aid unless epidemics break out or unless disruption of transportation and other basic facilities make it impossible to provide food, water and shelter. These considerations have led some persons who have given thought to a possible atomic bomb attack to suggest that all large cities be organized and mobilized roughly in the following way:

1. Facilities should be constructed on the outskirts of all large cities to provide hospital care, facilities for examination of ambulatory casualties and emergency rations for large numbers of persons.

2. One should plan for well trained and strategically placed workers to police and evacuate casualties, and, in general, operate as the workers in bombed English cities did during World War II.

3. One should provide for persons to be on the scene who are capable of calculating the center of the bombed area and determining the radius from the center in which, from the medical point of view, evacuation is essentially useless, the perimeter of the area in which evacuation is worth while and the perimeter beyond which little immediate medical attention is necessary. Such calculations can be made by reading previously located radiation monitoring instruments, by observations of the immediate biologic effects on persons within the bombed areas and others. Obviously the degree of destruction in a given city will depend on how close to the center of population the bomb explodes, the altitude at which the bomb is detonated and the size of the bomb. It seems likely that future atomic bombs will be no smaller and in all probability will be larger than those used at Nagasaki and Hiroshima.

Assuming that the medical profession and the military and civilian population of cities are organized adequately from the standpoint of preventing chaos, are able to evacuate casualties, and facilities are available for the care of the casualties, how does one separate the persons who require immediate hospital care and who

Dr. Jacobson, formerly Associate Director of Health of "The Plutonium Project" under the Manhattan District, is now in the Department of Medicine, University of Chicago, and Argonne National Laboratory. Dr. Stone, formerly Director of Health of "The Plutonium Project" under the Manhattan District, is now chief of radiology, University of California Hospital, San Francisco. Dr. Allen, formerly with "The Plutonium Project" under the Manhattan District, is now in the Department of surgery, University of Chicago, and the Argonne National Laboratory.

V 1
194

have a chance of survival from those who are beyond hope of survival even with the best care? If, in such an emergency state, as physicians we accept the calculations of the physicists, health physicists and other experts who presumably will be on the scene and arbitrarily accept no casualties from a certain determined area of the bombed city, then part of this problem at least would be answered for us. Even with such an arrangement in force, however, the number of persons seriously ill with thermal and radiation injuries would be staggering. In addition, we would have to cope in one way or another with a large group of persons who required only minor immediate treatment but who might later have serious complications of radiation injury.

Enough experience has already been had with thermal injuries to make a rapid selection of those who require hospital care. Thermal burns and radiation burns are much alike in appearance, and treatment is similar. The treatment of injury from massive doses of penetrating radiations to the whole body is not unlike the modern supportive treatment given for extensive thermal burns. Although exact or entirely reliable information is not available on the amount of total body irradiation human beings can stand, it is probably roughly as follows:

Fifty to 200 r would produce slight nausea, a transitory mild leukopenia and thrombopenia with complete recovery.

Two hundred to 400 r would produce a moderately severe leukopenia, thrombopenia, mild transitory anemia, severe nausea and vomiting and diarrhea, and moderate hemorrhagic manifestations. Death would occur in a relatively small percentage of these persons, whereas the majority would recover spontaneously with symptomatic treatment only.

Exposure to 400 to 600 r would produce a seriously ill person with anemia, leukopenia, thrombopenia, hemorrhagic manifestations of varying severity, severe nausea and vomiting and bloody diarrhea. Even with excellent supportive treatment, one might expect less than 50 per cent of the persons in this group to survive. With doses above 600 r, on the basis of present knowledge, only a relatively few persons would survive even with the best of medical care.

As has been said, persons with severe radiation injury would likely have severe thermal burns as well. The irradiation and thermal injuries might be roughly classified under local and systemic effects.

The local effects of thermal burns such as edema, erythema and blister formation would appear within the first few hours. If such severe skin manifestations were to appear in the first few hours and could be proved to have been induced by radiation, the prognosis would be hopeless. However, the separation of thermal and radiation burns within the first few hours after such a catastrophe would be difficult or impossible. Therefore, if no penetrating wounds complicate the clinical picture, the skin should be treated as one treats thermal burns. The erythema, edema and weeping of the skin occurring after lethal or semilethal doses of penetrating radiation differ from thermal burns in that they may not appear for a week or more and then become progressively worse. Such systemic effects as those resulting from the loss of plasma, the depression of hemopoiesis, and infection are common to both. Therefore, the liberal transfusion of plasma is indicated from the outset of treatment. In severe cases at least 1 liter of plasma would probably be given daily. Daily whole blood transfusions will also be necessary to combat anemia; antibiotics and the like are indicated to combat infection, which is probably inevitable in the face of severe leukopenia secondary to destruction of bone marrow and lymphatic tissue. No specific treatment is presently known to combat radiation-induced leukopenia. Blood transfusions will, to some extent, help to combat serious hemorrhage. The use of specific antiheparin substances such as toluidine blue or protamine sulfate may be indicated. Because of the severe gastrointestinal inflammation and edema, the ability of such patients to take oral nourishment is minimal. As a result, practically all nourishment must be given parenterally. Sedation is also of great importance. One feature of radiation burns which differs from thermal injury is the fact that in radiation burns pain may be severe and persists for days. The use of morphine, codeine and other sedatives is therefore essential. There are many other phases of treatment which might be considered, but this brief account at least indicates the enormity of the medical problem involved in atomic warfare.

RESEARCH WORK ON RADIATION INJURY

Not only is the research now being carried on in physics and chemistry on atomic energy being directed toward military application, but much effort is being expended to create peacetime applications such as heat and power. The research directed toward the medical and biologic effects of radiation has also been given great emphasis. Actually, this subject has received attention from the medical point of view since the pioneer work of Heineke in 1903.

The blood-forming tissue appears to be the most sensitive to radiation of any organ or organ system in the body. The penetrating radiations of significance from the standpoint of whole or partial body radiation from an external source are gamma rays, roentgen rays and fast neutrons. Qualitatively the biologic effects of these radiations are comparable. A dose of roentgen rays or fast neutrons or gamma rays given to the whole body which kills half of the exposed animals (LD_{50}) will, for example, produce a comparable degree of destruction of the hemopoietic system. The radiation sensitivity in the main cellular constituents of the blood may be listed as follows in terms of increasing sensitivity: erythrocyte, plasma cell, megakaryocyte, granulocyte, orthochromatic erythroblast and lymphocyte.

Some of the more recent work on the biologic effects of radiation which has already proved to be of some practical clinical value concerns a radiation-induced blood coagulation abnormality as reported by Allen and Jacobson.[1] Massive doses of radiation produce a prolonged clotting time (Lee White), and in some instances the blood may actually remain incoagulable for a period of twenty-four hours or more. This anticoagulant is probably heparin or a heparin-like substance, since it is reversible in vivo and in vitro by the administration of toluidine blue, protamine sulfate and other antiheparin substances. This defect appears in some animals even before platelets have been significantly reduced and in the presence of normal prothrombin, calcium and fibrinogen values. The value of these antiheparin substances in combating radiation-induced hemorrhage has already been demonstrated clinically.

1. Allen, J. G., and Jacobson, L. O.: Hyperheparinemia: Cause of the Hemorrhagic Syndrome Associated with Total Body Exposure to Ionizing Radiation, Science **105**: 388 (April 11) 1947.

Another investigation in rabbits directed toward a practical approach to radiation injury was recently reported by Jacobson and others.[2] It was found that erythropoietic tissue in the bone marrow and spleen is definitely protected significantly from radiation injury if stimulated to massive production prior to irradiation. In these experiments erythropoiesis was stimulated by administration of phenylhydrazine or venisection.

These brief statements on research in progress are only intended to indicate that research work of a fundamental and practical nature is under way. The Atomic Energy Commission especially is subsidizing and stimulating work in this field. The medical applications of radiations and radioisotopes in diagnosis and therapy are receiving considerable attention. At this time only a relatively small number of the radioisotopes are practical and may be listed as follows:

Radiophosphorus (P^{32}): Oral or intravenous administration in the treatment of lymphomas, leukemias, polycythemia rubra vera and carcinoma mestastatic from cancer of the breast.

Radiogold (Au^{198}) and the Radiomanganese (Mn^{54}): Used in colloidal form in treatment especially of leukemias.

Radioarsenic (As^{76}): Used in the treatment of lymphomas and leukemias.

Radiosodium (Na^{24}): Used in the treatment of lymphomas and leukemias particularly and in diagnosis of vascular changes in the extremities.

Radioiodine (I^{131}): Used in the treatment of hyperthyroidism and carcinoma of the thyroid; of some value in tracer amounts in determining the functional state of the thyroid gland.

In all the discussion up to this point, no mention has been made of the possibility of using large quantities of radioactive materials in atomic warfare. A discussion of this would in itself require a review of our knowledge regarding the biologic effects of all the radioelements formed in the fission reaction. These elements number about thirty and are largely composed of radioelements which localize in bone. The fear that large quantities of radioactive isotopes might be dropped on large cities, in water reservoirs and the like is as frightening as the thought of bacteriologic warfare. Whole cities could be made uninhabitable and water supplies could be hopelessly contaminated by spreading radioactive isotopes by airplane. Depending on the concentration of isotopes dropped under such circumstances, we would be dealing medically with externally originating radiation to the whole body and to radioactive elements deposited within the body through inhalation, ingestion and the like.

It is interesting that the mammalian hemopoietic system has some measure of defense against radioisotopes which localize in bone.[3] For example, radiostrontium, which is physiologically interchangeable with calcium, is largely deposited in the skeleton when administered to the experimental animal. Although deposition in bone is general, the greatest concentration of the isotope invariably occurs in areas of active bone growth. An intraperitoneal injection of this isotope as the chloride in a dose of 2.0 microcuries per gram produces persistent leukopenia but no anemia of significance in the peripheral blood of young mice. The same dose produces both leukopenia and anemia in splenectomized mice. Hemopoiesis is markedly depleted in the bone marrow of all animals given such injections of radiostrontium. The metaphysial and epiphysial regions of the long bones are largely, if not completely, replaced by fibrous tissue. Extramedullary erythrocytopoiesis and megakaryocytopoiesis are greatly increased in the spleen by three days after injection of strontium 89 as is true of other intervals studied through more than one hundred and seventy-five days. Splenic lymphopoiesis, on the other hand, is reduced by three days, and recovery is not complete by ninety days. Myelocytopoiesis increases more slowly in the spleens of the animals given injections of strontium 89 over the period of observation. Extramedullary hemopoiesis is not remarkable in other tissues. The rapid development and persistence of extramedullary erythropoiesis in the spleen prevent anemia in mice given strontium 89 intraperitoneally in a dose of 2.0 microcuries per gram.

Until the present time no effective method has existed for removing these radioisotopes from the body once they have localized in bone. Attempts to utilize the same principles involved in removing lead from the body have been unsatisfactory. The dangers of these isotopes are largely confined to the eventual appearance of aplastic anemia, sarcomas of bone or lymphomas.

SUMMARY AND CONCLUSIONS

In summary it is clear that at this particular moment, in spite of the fact that the atomic bomb was developed in this country and that great strides have already been made in terms of better understanding of the biologic effects of radiation, we would hardly be much better off to cope with an atomic bomb attack on one of our major cities than the Japanese were at Nagasaki. Leaders in medicine and radiobiology are giving attention to this problem and a plan and actual preparation for such an eventuality will probably evolve and be placed in operation. In the meantime, the government and universities are spending millions of dollars for research on methods of diagnosing, treating and preventing radiation injury. The physician must play a role in the investigation of these problems during this period of peace. That he will play a role in handling casualties in the event of an atomic war is inevitable.

2. Jacobson, L. O., and others: Studies on Radiosensitivity of Cells, Science **107**: 248 (March 5) 1948.

3. Jacobson, L. O., and Simmons, E. L.: The Effect of Splenectomy on Radiostrontium Toxicity, abstracted, Anat. Rec. **100**: 678 (April) 1948.

Renal Infarction.—Foa described the gross and microscopic changes of a renal infarct caused by permanent ligation of a branch of the renal artery. At first the color is reddish gray, the infarct stands above the surface of the rest of the kidney and the tubular epithelium is swollen and cloudy and shows disintegration of its nuclei. The glomeruli and blood vessels, aside from edema and diapedesis of red cells, appear normal. There is a red zone surrounding the infarct, between it and the normal tissue, caused by tremendous engorgement of the capillaries. After 3 to 4 days the infarct has a gray color, the surface is level with the rest of the kidney, and the boundary zone is less red and wider. The tubular epithelium has lost its architecture and appears as a hyaline or granular mass. Many of the glomeruli show partial or complete necrosis and there are thrombi in the smaller arterioles. After 8 to 15 days the infarct has become smaller in all dimensions and is retracted from the surface of the kidney. There is a progressive contraction so that at 1½ to 2 months there may be found, at the site of the infarct, only an umbilication of the renal capsule, the infarct itself being represented by a yellow, contracted zone in the cortex. Occasionally there is left, in place of the infarct, a deep and irregular cyst or cavity which is covered with fibrous tissue and surrounded by exuberant parenchyma. At times the infarct may be reduced to a small calcified mass.—Regan, Francis C., and Crabtree, E. Granville, *The Journal of Urology*, June 1948.

STATUS OF PERINEAL PROSTATECTOMY TODAY

DANIEL R. HIGBEE, M.D.
Denver

The purpose in presenting this subject is twofold: first, to present additional evidence on perineal prostatectomy as to its relative safety and good end results and, secondly, to endeavor to stimulate wider interest in the perineal surgical treatment of carcinoma of the prostate.

There are four available methods of relieving prostatic obstruction surgically: suprapubic, retropubic, transurethral resection and perineal prostatectomy. Each of these methods has certain advantages and disadvantages.

The suprapubic route is probably the easiest surgical method to master, requiring the shortest period of training to perform successfully, and uniformly gives good end results. Against it is the somewhat higher mortality than that of any other method, averaging in competent hands 4 to 6 per cent. Morbidity also is greater and hospital time longer. It should not be attempted in the treatment of fibrotic or calcareous obstructions or suspected cancer. In my own practice the procedure is limited to those patients with extremely large prostates (200 Gm. or over), those associated with large or inaccessible bladder tumors, large or multiple calculi, diverticula requiring excision and a few enlargements associated with atonic or neurogenic dysfunction. Mortality has averaged 5 per cent, morbidity 22 per cent; it is employed at the present time in approximately 3 per cent of cases.[1]

Retropubic prostatectomy, while newer and a little more difficult to perform, has been shown to be accompanied by less shock, slightly lower mortality, 1.75 to 6 per cent decreased morbidity (10 per cent), shorter hospital time and good end results provided certain precautions are taken. It is a relatively new operation, and statistics so far are somewhat limited. However, it does seem to violate one long established principle of prostatic surgery; namely, there is inadequate drainage with its associated problem of infection. There is also a relatively high incidence of stricture of the vesical neck unless a wedge of vesical neck tissue is removed at the time of operation. While it is suitable for the average adenomatous hyperplasia, it does not lend itself particularly to the treatment of very large adenomas, the small fibrous prostate and growths of suspected malignancy, though some early cancers are reported to have been removed successfully by this route.

Transurethral resection, boasting the lowest mortality (1 to 3 per cent), the lowest morbidity (8 per cent), shortest hospitalization and wide popularity with both physician and patient, would seem to be the best method, and is so considered by many able urologists. However, incomplete removal for various reasons, strictures and distortions of the urethra and vesical neck with resulting urinary frequency, occasional cases of incontinence and the lack of permanency of relief have somewhat dimmed its popularity. This method is admirably suited to bars, median lobes, vesical neck contractures, smaller prostates which protrude into the bladder, the average neurogenic bladder, to persons who are extremely poor risks and to persons with associated pathologic changes, such as accessible papillomas and calculi. In my own practice its use is now limited to these types of cases and to some younger patients in whom preservation of sexual function is of considerable importance. This amounts to approximately 37 per cent.

Perineal prostatectomy has not enjoyed the popularity of these three other procedures. In my opinion the underlying reasons are (1) lack of familiarity with the anatomy of the male perineum, (2) inadequate teaching, or the total absence of it, in many of the well organized medical centers and (3) the lack of courage on the part of the surgeon to follow through and master the approach in spite of having previously encountered a difficult case or one of the more serious complications.

Assuming that the surgeon has the average surgical skill and gentleness in handling tissue, he does need a good working knowledge of perineal anatomy, but, more than this, he must have adequate demonstration and teaching during his training and an opportunity of doing the operation often enough to do it skilfully.

Perineal prostatectomy is the one operation by which almost any pathologic change encountered can be adequately dealt with. In the words of Dr. Hugh Young[2]: "The great advantage of the operation is that it is performed under the complete visual control of the operator; that hemorrhage encountered is stopped, the enucleation is certain in its completeness; the verumontanum, ejaculatory ducts, the internal and external sphincters are protected, dependent drainage for urinary and inflammatory secretions is obtained, and the lowest mortality rate is secured." Newer methods, instruments and drugs have altered these truths very little.

The disadvantages are of course well known. Position during operation is unpleasant and may be associated with respiratory or cardiac embarrassment, though I have not seen either, using the Edwin Davis perineal elevator. Such complications as do develop may be unpleasant and difficult to overcome; namely, rectal injury, persistent perineal fistulas and incontinence.

This series of 350 consecutive cases is made up of 334 simple enucleations, 2 subtotal prostatectomies and 14 radical perineal operations which are analyzed separately. Prostates varied in size from 4 Gm. to 157 Gm. Of these 75 were recurrent adenomas or fibroadenomatous glands weighing less than 20 Gm. and 2 were calcareous glands, 1 removed by subtotal prostatectomy and 1 by leaving the capsule intact. These 77 cases were so treated in order to obtain good bladder tolerance and avoid stricture, which the operator did not feel he could assure by any other method. Later, 39 proved to have nocturia, grade 0 to 1, 4 nocturia, grade 2 to 3, and 3 nocturia, grade 3 or over. In 2 of the latter, examination showed prostatic tissue which had not been removed. These were treated by transurethral resection. In 1 case no cause could be determined. In the remaining cases no data are available. Twelve patients were operated on after abdominal sur-

Read before the Section on Urology at the Ninety-Seventh Annual Session of the American Medical Association, Chicago, June 24, 1948.

1. Higbee, D. R.: Benign Prostatic Obstruction: Comparison of Results Following Suprapubic, Transurethral, and Perineal Operative Procedures, J. Urol. 56: 83-96 (July) 1946.

2. Young, H. H., and Davis, D. M.: Practice of Urology, Philadelphia, W. B. Saunders Company, 1926, vol. 2, p. 441.

gery complicated by acute urinary retention. Twenty-four had been admitted for hospitalization of medical illnesses. The 80 cardiac cases are discussed as a separate group. In other words, this series was not one of selected risks.

THE GROUP OF 336 PATIENTS

MORTALITY

In the first group of 336 patients 6 died, or 1.8 per cent; of these 2 were coronary deaths occurring twenty-four hours postoperatively, 2 were from large pulmonary emboli on the third and fourth postoperative days, 1 from septicemia twenty-four days postoperatively and 1 not related to the operation, from carcinoma of the cecum two months later.

MORBIDITY

Complications developed in 39 cases, or 11 per cent; postoperative hemorrhage occurred in 13 cases, rectal injury in 11 (4 resulting in fistulas), pulmonary complications in 13, acute pyelonephritis in 2, cardiac disease in 4, toxic dermatitis in 2 and ligation of the left ureteral orifice requiring release in 1.

Postoperative Hemorrhage.—Postoperative hemorrhage requiring return to the operating room for evacuation of clots occurred in 13, usually on the day of operation, although in 3 it occurred after the sixth postoperative day. Ten of these complications were corrected transurethrally, 3 by reopening of the incision in order to replace the Bardex transurethral drainage. Of these patients, 6 were given blood transfusions, 2 of them twice. Blood loss, therefore, during and after surgical treatment has not been excessive, totaling 4 per cent of cases, with transfusion in less than 2 per cent.

Rectal Injuries.—In the 11 cases of rectal injuries, fistulas occurred in 4, or 1.2 per cent. In 7 of the 11 cases the perineal operation was abandoned; suprapubic enucleation was substituted in 2, and transurethral resection in 5. In 4 of the 7 cases healing was by primary intention; in 3 fecal fistulas developed which closed within a few weeks' time. In 2 of the 4 cases with rectal injury in which the perineal procedure was completed, the injury was discovered toward the end of the operation, and in 2 it developed five to seven days postoperatively. In 3 cases permanent healing required approximately three months, and thereafter there was no difficulty with either rectal or urinary function. The one remaining patient went elsewhere for consultation and could not be followed, though he was said to be alive and well three years after the operation.

Pulmonary Complications.—There were 13 cases with pulmonary complications, in 7 diagnosed as embolic pneumonia, in 4 as bronchopneumonia, in 1 as lobar and in 1 as diaphragmatic pleurisy. These complications, while not serious, prolonged hospitalization on an average of seven days.

The 2 patients in whom acute pyelonephritis developed approximately two weeks after surgery were operated on without preliminary catheter drainage, which was perhaps merely a coincidence.

Cardiac Complications.—There is a general impression that persons with cardiac disease stand prostatic surgery other than transurethral resection poorly, at least that the mortality will be considerably higher. The fact that there were 2 cardiac deaths and 4 other cardiac complications in this series does not bear out this belief so far as perineal surgery is concerned. Two deaths have been noted under the mortality statistics. One of these patients had a 37 Gm. prostate and complete heart block, with a pulse rate of 38 to 40, and died after a severe chill, forty-eight hours postoperatively. He had had no cardiac embarrassment until the chill occurred. The other death was of a man who had had repeated coronary attacks and transurethral resection three years previously with persistent frequency of urination and bladder irritability. Coronary occlusion occurred suddenly twenty-four hours postoperatively after a rather trying twenty-four hours of bladder discomfort, insufficiently relieved by sedatives.

Of the four patients who survived cardiac complications, coronary symptoms and signs developed in 3 and acute decompensation with pulmonary edema in 1 (associated with intravenous administration of dextrose). In only 1 of the 4 had the heart condition been considered of importance prior to operation, and all recovered completely. In 80 of the 336 cases cardiac risks were considered to be less than average prior to operation: persistent hypertension of 160 or over (54), advanced arteriosclerosis (3), evidence of previous coronary occlusion (4), cardiac decompensation (13), or one of the less frequent arrhythmias (auricular fibrillation 4, Stokes-Adams 1), heart block (2). Of this group in 13, or 17 per cent, some complication developed after surgery. Of the 54 cases with hypertension the highest pressure was 240 systolic and 140 diastolic; in 15 diastolic pressures of 100 or more were maintained before and after operation. In only 2 instances did an established hypertension subside permanently following operation. Of the 13 patients with histories of chronic myocarditis and signs of mild decompensation, after catheter drainage and digitalization, all but one progressed satisfactorily during the operation and convalescence, the exception being the patient in whom pulmonary edema developed.

On the basis of the findings outlined cardiac patients stand perineal surgery well, though there is probably less immediate risk if treatment is by transurethral resection.

Fistulas.—Persistent perineal fistula occurred in 1 case and was due to improper postoperative judgment and care. Use of the perianal incision elevating the levator ani anteriorly, followed by primary closure of the incision and transurethral drainage, seemed to have eliminated this complication, which statistics show formerly occurred in approximately 2 per cent of perineal operations.

Incontinence.—Fear of urinary incontinence is more widespread than is justified, for, if the mechanism of incontinence following perineal surgery cannot always be fully explained, the methods of avoiding it are nevertheless well agreed on: (1) strict following of lines of cleavage, especially in separating the apical attachment of the rectourethralis; (2) avoidance of unnecessary dissection and exposure, thereby interrupting as few nerve fibers as possible, and (3) gentleness and care in retraction, both laterally and anteriorly, in the region of the perineal body and external sphincter.

In this group of cases some degree of difficulty in holding urine immediately after starting to void was present in 17 per cent, remaining to some degree in 10 per cent at one month and in 3 per cent at the end of three months. The degree of incontinence varied from a few drops in 15 per cent to complete incontinence when standing in 5 patients. The latter were the slowest in regaining full urinary control. Four patients, approximately 1 per cent, had slight periodic urinary incontinence for nearly a year, and clothing of 2 patients, one a man of 83, was often slightly damp on visits to the office thereafter; the other patient, a man of 65 with chronic uremia and myocarditis, finally gained complete urinary control after one year.

RESULTS IN ELDERLY GROUP

There was no mortality in the group of 25 patients 80 years or over, the oldest being 90. Preoperative catheter drainage averaged 7 to 9 days; postoperative time to voiding and healing was eleven days in 12 cases and up to twenty days for the remainder. Average hospital time was four weeks or less, though the longest period was forty-six days, in a patient who contracted pneumonia postoperatively. Prostates averaged 53 Gm. in weight, with two over 150 Gm.

There are some who believe that elderly men will not have good end results after perineal surgery. Of the 25 in this group, 12, or one half, had some degree of incontinence immediately, 2 being totally incontinent at first. However, all had normal urinary control within one to three months except 1 patient, aged 83, already mentioned. All developed good bladder tolerance with nocturia, grade 1 to 3, except one senile man who voided without knowing when this might occur. Five of the 25 had had previous transurethral resection.

CONCLUSION

Conservative perineal prostatectomy can be carried out with low mortality, little blood loss, few complications and good end results at any age.

CANCER OF PROSTATE

We have all treated patients having inoperable carcinoma of the prostate with, occasionally, surprisingly good results. Seven persons come to mind who have lived fairly comfortably between seven and nine years, in whom the diagnosis was proved, sometimes more than once, by transurethral excision. However, these cases are exceptional, and in my own practice the average length of life after initiation of palliative treatment is from three to five years.

When one considers that in 14 per cent of men over 45 cancer of the prostate develops,[3] that two decades of the various forms of radiation therapy have at best given palliative relief in less than 30 per cent of these cases, and that after nearly a decade of endocrine treatment and resection we are producing no proved cancer cures by these methods, we should give some thought to our responsibility to the public for our somewhat backward attitude in meeting this serious problem more decisively. The specialist cannot sit back and allow the man with a hard discreet area in his prostate, or for that matter one in whom there is some question of beginning extension beyond the capsule, to wait for obstructive urinary symptoms, pain or hemorrhage, to force him to initiate one or more of the established palliative measures.

Total perineal prostatectomy is not a particularly difficult procedure if one is doing other perineal surgery frequently, and surgical removal remains today the only means of producing a cure.

Funds are becoming increasingly available through cancer foundations. Educational programs, already well established, are beginning and will continue to bring more and more of these patients to us for early treatment following routine examinations. We must then be prepared to offer these persons a reasonable chance to be cured, and it is with this opportunity and obligation in mind that the following small group of cases is included.

ERRORS IN DIAGNOSIS

Of the 14 patients subjected to radical perineal prostatectomy 2 proved to have no evidence of carcinoma on pathologic examination. Disconcerting as this is, both have good functional results. There were also 3 patients with carcinoma of the prostate treated by conservative perineal surgery followed by castration, in whom carcinoma had not previously been suspected. One patient, diabetic, lived comfortably for three years before dying of diabetes and "liver trouble." One remains in apparent good health after two years; the third died suddenly while making a radio address two and one-half months postoperatively.

RADICAL PERINEAL PROSTATECTOMY WITH ORCHIDECTOMY

Of the 12 patients with proved carcinoma of the prostate treated by radical perineal prostatectomy 4 were castrated in conjunction with the operation as a result of suspected or proved malignant growth beyond the prostatic capsule. Of these, evidence of progression of the malignant growth by rectal examination is absent in 1 case at the end of three years, absent in 2 cases at the end of two years and in 1 case eighteen months after surgical treatment. The last patient mentioned showed carcinoma extending into the seminal vesicles. He had a good functional end result and was in good health without palpable evidence of cancer at a recent examination.

RADICAL PERINEAL PROSTATECTOMY WITHOUT ORCHIDECTOMY

Of the 8 patients operated on by radical excision and partial removal of seminal vesicles but without castration, 5 are alive and show no evidence of recurrence (2 at the end of four years; 1, three years; 1, two years, and 1, one year following surgery). Of those not living 1 died of a pulmonary embolus on the fourth postoperative day, giving an immediate mortality of 12.5 per cent; 1 died one and one-half years postoperatively of pneumonia, postmortem examination showing no evidence of cancer, and 1 was a suicide two and one-half months postoperatively.

All patients were prepared by catheter drainage and 5 mg. diethylstilbestrol daily for ten to fourteen days. On rectal examination regression was evident or pronounced in 9 cases, sometimes sufficient to make the original diagnosis questionable. In 3 cases there was no evident change. Operability is therefore usually facilitated by preliminary treatment with diethylstilbestrol.

3. Goodyear, W. E.: Perineal Prostatectomy: A Hope for Cancer Cure, J. M. A. Georgia 36: 425-427 (Nov.) 1947.

Following operation, convalescence was usually uneventful, though 1 patient was given a transfusion immediately after the operation. Nine healed by primary intention in twelve to twenty days, and the remainder on catheter drainage, the longest being thirty days. There was one rectal injury which healed primarily and, though 7 were totally or partially incontinent at first, all obtained good urinary control after a reasonable period of time.

CONCLUSION

Radical excision should be attempted in all cases of cancer confined to the prostate gland and in those borderline cases which respond to diethylstilbestrol therapy. Biopsy may or may not be indicated when one is in doubt.

Patients encountered in whom complete removal is impossible because of extension or for other reasons apparently obtain as good palliative relief as those treated by other methods and, while a five to ten year period without recurrence will be necessary to establish the number of cures obtained, some of these patients will be cured of cancer. The number so treated and cured should increase steadily.

1117 Republic Building.

EVALUATION OF TRANSURETHRAL PROSTATECTOMY

JOHN A. TAYLOR, M.D.
and
CHARLES H. PLACE, M.D.
New York

In a symposium on prostatectomy such as this, it is not our intention to defend the transurethral operation against any one of the other three methods, but rather to try to evaluate it as a surgical procedure and therapeutic agent in our hands, in contrast to enucleation by any one of the other methods. At St. Luke's Hospital, it has been our dictum that the method of approach rested with the surgeon and that he should be guided by his experience, so that when he operated he felt that he could offer the patient the best chance of cure. The suprapubic approach in our hands prior to 1932 left little to be desired, but the advent of transurethral resection offered a challenge.

The first transurethral resection was done in our hospital in June 1932. Resections were done at first with a great deal of trepidation because of the reported rates of morbidity and mortality in the hands of the early advocates of this method. In this manner, the many pitfalls were avoided. As our experience grew, it was felt with more than a modicum of modesty, three years later in 1935, when this present report begins, that the staff had attained a degree of proficiency comparable to that of the other groups of resectionists throughout the country. Early ambulation, which has since become so popular, the restoration of urinary function within twenty-four or forty-eight hours, the minimal surgical shock, allowing elderly poor risks literally to "breeze through" an operation, and the gratefulness of the patient himself led us to do more and more operations by this method. In 1935, 78 per cent of the prostatic operations were done by the transurethral method; in 1936, 82 per cent; in 1938, 88 per cent, and from 1939 through 1944 practically 100 per cent.

The observations in this paper are based on 1,066 cases handled by the various members of the Urologic Staff of St. Luke's Hospital between 1935 and 1945. It is believed that if one discusses the trouble which has been encountered in these cases a better evaluation is arrived at than if the good results were emphasized. In our series the average age was 66.55 years, the youngest being 44 and the oldest 96. There were 957 (89.8 per cent) cases of benign lesions and 109 (10.2 per cent) cases of carcinoma with retention.

ANESTHESIA

During the first five years of this series, the transsacral block according to La Bat was used. It was definitely believed at that time that general anesthesia in patients, who as a rule were elderly, would add to the rates of postoperative morbidity and mortality. The science of anesthesiology has so advanced since then that this threat of trouble with general anesthesia had been reduced to a minimum. In 1940, one of us (J. A. T.),[1] in searching for a simpler procedure than the transsacral block, which had necessitated eleven punctures, utilized the lumbosacral subarachnoid tap, which required only one injection and which offered the patient less of an ordeal and the anesthetist a relatively simple procedure. This method has been used almost exclusively since then for resections.

TWO OR MORE RESECTIONS ON FIRST ADMISSION

In 205 cases, or 19.3 per cent, another resection was necessary during the first hospital admission. It is believed that when one is using the transurethral method patients should not be allowed to leave the hospital unless they empty their bladders. Patients are told before the operation that one resection might not be adequate for complete restoration of function. The operator should have no qualms about doing a second or a third resection if the result is not entirely satisfactory. It has often been surprising, when patients have not emptied their bladders after transurethral resection how small an amount of tissue removed at the second operation will spell the difference between success and failure.

IMMEDIATE POSTOPERATIVE HEMORRHAGE

There were 18 patients, or 1.7 per cent, who had postoperative hemorrhage, which necessitated their return to the operating room. Of these, 12 were controlled after the evacuation of clots and fulguration of the bleeding point. Six patients, or 0.56 per cent of all cases, required suprapubic operation for control of hemorrhage.

DEATHS

The record of 5 deaths in this series justifies our application of the phrase "minimal procedure" to this operation. When one considers the age group, with concurrent cardiovascular changes, and the fact that many of these patients were operated on when they had stabilized high levels of urea, at figures that one would not consider favorable for open operation, then one must conclude that this method is far superior so far as fatalities are considered. One case to illustrate this point was of a Negro of 78 years, admitted

Read before the Section on Urology at the Ninety-Seventh Annual Session of the American Medical Association, Chicago, June 24, 1948.

1. Taylor, J. A.: Lumbosacral Subarachnoid Tap, J. Urol. 43: 561 (April) 1940.

in complete retention, in August 1947, with a history of repeated attempts at catheterization. On admission, he had a level of urea nitrogen of 49 mg., diabetes, cardiovascular disease, dilated aorta and a Bacillus coli infection of the blood stream. Treatment included blood transfusions, antibiotics and oxygen, and his condition was considered stabilized two months later. A transurethral resection was done under low spinal anesthesia, and 65 Gm. of tissue were removed. He voided well on the third postoperative day, and he emptied his bladder. He left the hospital for the convalescent home on his eleventh postoperative day. He was seen in the outpatient department on May 7, 1948. His only complaint was nocturia (two episodes nightly). He emptied his bladder, and a no. 26 sound was passed easily through the urethra. It seems to us that this patient could not have withstood open surgical treatment.

The first death was that of H. C., age 66, with cardiovascular disease, who had benign prostatic hypertrophy and a vesical calculus. At his first operation, on Aug. 12, 1937, a litholapaxy and a transurethral resection were performed, and he did well except for partial urinary retention. He was returned to the operating room on August 26; he had acute left ventricular failure with massive pulmonary edema and died on the table.

The second death was that of H. M., age 61, who was operated on Jan. 18, 1943. He had an uncontrollable hemorrhage on the operating table and was taken to the main operating room, where a suprapubic enucleation was performed. He died of hemorrhage on the table.

The third death was that of A. H., age 67, who was operated on Dec. 1, 1943. He went through the operation without any difficulty and progressed favorably until the Foley bag was to be removed on the second postoperative day. The bag would not deflate, and many urethral procedures were tried, with the subsequent development of a periurethral abscess and a Bacillus coli infection of the blood stream. He died three weeks postoperatively, with a cerebral hemorrhage. Since then, it has been learned that 2 cc. of chloroform injected into the bag when the bladder is filled with a neutralizing solution will dissolve the rubber cement that holds the bag to the catheter, and the bag can immediately be removed. This method was used in the only other case of failure of a bag to empty, with immediate success.

The fourth patient, J. J., age 66 years, was admitted in May 1936 with complete retention of urine, and was operated on May 11, 1936. Streptococcus hemolyticus septicemia developed, and the patient died of meningitis.

The fifth patient, G. D., age 58 years, was operated on Jan. 13, 1938. He had postoperative extravasation of urine, which suprapublic drainage failed to help, and he died of sepsis.

STRICTURE

In this series, there were 16 cases, or 1.5 per cent, of stricture of the urethra following operation. The urethras have always been dilated gradually and carefully, with the idea of preventing any trauma, and the no. 24 resectoscope has been used in some of the smaller urethras. It is believed that at times when the resectoscope is passed, the end of the sheath will, unknown to the operator, cause trauma of the urethra. It is thought that this is one type of complication which could have been improved with the use of perineal section, a procedure which was not employed in this series.

INCONTINENCE

There were 3 cases of incontinence. One patient, C. J., was 66 years of age in 1936, when he was operated on. He carried on his work thereafter with a philosophic attitude about his incontinence. He was retired and thoroughly enjoying life at 78—twelve years later.

The second patient was a man 63 years of age, who was operated on in December 1940 and at the time of writing was employed in the library of the hospital. He was examined on June 9, 1948—seven years after his operation. His urine was clear. He had complete incontinence and wore a clamp, and he was psychologically adjusted to his misfortune.

The third patient, 67 years old, operated on in 1939, was most unhappy about his condition.

TIME BETWEEN RESECTIONS

It was toward the end of this series that the return of patients after several years of comfort, in whom symptoms of prostatism began to develop again and who presented large prostates, and the calls for help from patients with hemorrhage after years of normal function led us to question whether or not it might have been the better part of valor to have done an enucleation of the gland in the first instance.

Delayed or Subsequent Resections

Condition	No. of Cases	Percentage
Retention	58	5.42
Hemorrhage	30	2.83
Carcinoma	20	1.88
Calculi	22	2.0
(*a*) Recurrent	8	
(*b*) Primary	14	
Total	129	12.1

In regard to the subsequent procedures, the resections for carcinoma would be expected. It was, however, the subsequent resections done for retention, hemorrhage and calculi that somewhat tempered our judgment on the desirability of doing transurethral resections in all cases of prostatism. The shortest time interval between resections was one year; the longest interval was twelve years, and the average interval was six and seven-tenths years. Delayed hemorrhage is a troublesome and frightening symptom to a patient who has been well for years after his operation. It is admitted that bleeding relatively soon after the operation can be caused by a poorly nourished piece of residual prostate. When a patient has had several years without bleeding, and then bleeds, the bleeding has been found in most instances to be due to a recurrence of his prostatic growth.

INFECTION

Infection is a problem to contend with in transurethral surgical procedures. The incidence has been greatly reduced with (1) the use of the antibiotic preoperatively and postoperatively, (2) the absence of the indwelling catheter preoperatively where possible, (3) the effort to have patients empty their bladders before leaving the hospital and (4) the early removal of postoperative catheters in patients that have not required postoperative drainage—sometimes within eighteen hours.

COMMENT

It may seem, because of the emphasis on the complication previously cited, that we are trying to discredit the transurethral operation. Such is not the case. One learns by errors, and these errors have been helpful to us in our thoughts on transurethral resection.

Perusal of these complications has compelled us to modify our thinking somewhat about the method, and instead of 100 per cent resections, as was done in 1944, about 70 per cent of our cases are now done by the transurethral route. This leaves about 30 per cent for surgical enucleation. In this group are the younger age groups, with a longer life expectancy, the very large prostates in good surgical risks, the patients who come from remote regions, where it is impossible to follow them and offer help if the necessity for it arises, and the patients with fibrous prostates. That the transurethral method is the ideal procedure for the fibrous prostate cannot be questioned. The attempts at punching the vesical neck, with or without suprapubic drainage, prior to the advent of transurethral surgery, were for the most part unsuccessful in our hands. In cases of this type, after 1932, transurethral surgical treatment was given, with excellent postoperative results.

SUMMARY AND CONCLUSION

One thousand and sixty-six cases of prostatism in which transurethral resection was done by the various members of the urologic staff of St. Luke's Hospital between 1935 and 1945 have been reviewed. The complications of this method are discussed. Transurethral resection, in our opinion, is a "minimal risk" procedure and was the ideal operation in about 70 per cent of our cases.

ABSTRACT OF DISCUSSION

ON PAPERS BY DR. DANIEL R. HIGBEE AND DRS. JOHN A. TAYLOR AND CHARLES H. PLACE

DR. JAMES PETERS, Melbourne, Australia: I feel honored to discuss this paper in the place of my senior in Melbourne, Henry Mortenson. I bring you his thanks for your hospitality toward the Australians and very deep appreciation of your many kindnesses. The fact that he is returning, I feel sure, is not only a tribute to American urology but, speaking literally, is a confirmation of the fact that he drank deeply of your hospitality—and that is no reflection on your present climate. My first experience with papers delivered personally by an American was during the war in the Pacific. I then noticed how briefly and concisely and definitely the views were put forward. During my two years in England I have seen how eagerly read and attended are the papers in American medical literature. My impression after only two weeks in America is shown by these papers. There appears to be universal agreement that after general consideration of the patient the particular type of gland is treated by the method expressly suitable. The papers show that the various technics are mastered and applied and confirm the contention that the large gland is better treated by open operation, that operation in a manner which, in the hands of the particular surgeon, has shown the best results. I cannot discuss the paper on resection, by Drs. Taylor and Place, nor the paper by Dr. Higbee, because frankly, gentlemen, I am in this country to learn their particular technic.

DR. GRAYSON CARROLL, St. Louis: Running through these presentations on prostatic surgery is a note of optimism. Dr. Fishbein, in a meeting of the secretaries of the sections, remarked, "One of the outstanding contributions to medicine was the improvement in the treatment of bladder neck obstruction." Length of stay in the hospital reduced to ten days or two weeks, minimal amount of pain and complications during this period and a mortality rate of 1 per cent or less constitute convincing evidence of this statement. The approximation of the results in all types of surgical treatment makes one less enthusiastic in arguing about which is the best; one is content to say that the operation of choice is that one best suited to the operator, the patient and the type of gland. The urologist should be trained to perform any equally well, because they all have their place. Published figures of 5 per cent mortality in this type of operation are no longer valid. A mortality rate of 1 per cent and length of stay in the hospital of ten days to two weeks are not unique since the era of antibiotics, one stage prostatectomy and better understanding of electrolytic balance. Some of my confreres in St. Louis are meeting with a high degree of success by closing the bladder completely, leaving a small wick drainage in the suprapubic wound. We prefer to place a suprapubic tube for the first twenty-four hours as a safety valve during that critical period; my co-workers and I find that after the removal of the suprapubic tube next morning there is no urinary drainage on the dressings, which are not changed again for a week. It simplifies nursing and medical care and permits the patient to get up and about the second day without discomfort. We are satisfied with the technic described by Terrance Millen. The excellent view after the prostate is removed makes it possible to treat any abnormality of the bladder, such as fibrous bar or median lobe, easily. The Cherney incision, a double Gibson incision cutting directly through the recti muscles, gives a better exposure for the radical removal of the carcinomatous prostate, which is quite practical by this method. We inflate the bag within the bladder. Dr. Higbee's record of over 300 patients treated by the perineal prostatectomy demonstrates the value of this procedure. Its greatest value is the exposure of the posterior lobe, where early carcinoma is most commonly found and a frozen section can demonstrate the presence of carcinoma. The Papanicolaou test may offer us an opportunity to detect a malignant condition in a larger proportion of cases, making it imperative for the urologist to be familiar with the radical surgical removal, either by the perineal or the retropubic route. We should start a slogan: After 50 see your urologist for examination.

DR. VINCENT J. O'CONOR, Chicago: I wish to express my appreciation for the painstaking review presented by Dr. Taylor and Dr. Place regarding their results in transurethral resection of the prostate. Their figures and end results, with special emphasis on application, more or less agree with mine and with those of other urologists who have had extensive experience in this field. My co-workers and I apply the procedure of transurethral resection to about 75 per cent of the patients we see with a vesical neck obstruction; the remainder are subjected to enucleation of the gland. Transurethral resection in our hands is followed by an annoying delayed hemorrhage from the bladder neck in too large a percentage of instances. Regardless of as complete a removal as possible and adequate control of infection, about 1 out of every 12 to 15 patients will have an episode of troublesome delayed hemorrhage from twenty-one days to several years after operation. For this reason we rarely do transurethral resection in large glands when the patient is going to return to an area remote from good urologic care. Stricture of the urethra continues to be a troublesome complication following transurethral surgical treatment. We feel that transurethral resection should be accorded to the majority of the patients that we see with obstructive prostatic lesions, but in approximately one fourth of these patients, in our experience, enucleation of the gland furnishes a more lasting and more satisfactory end result.

DR. NELS F. OCKERBLAD, Kansas City, Mo.: A few years ago, such a symposium as this could not have been put on a program without causing considerable acrimonious debate. It is a sign that we, as urologists, have grown up when we can discuss and evaluate these divergent but efficient means of dealing with the problem of prostatism. As to Dr. Higbee's paper I should say little, for the simple reason that I have never

been enthusiastic about the results in perineal prostatectomy. The operation itself from the operative point of view is fine. The transurethral operation has largely replaced it as an operation of choice in small to moderately enlarged prostates. The transurethral procedures as evaluated by Dr. John Taylor and Dr. Charles Place show that the operation of transurethral resection is no better than the operator. A comparatively unskilled surgeon may obtain very good end results in any of the open operations. In the transurethral procedure there is no place for the inept surgeon. In order to be satisfactory, this operation must approximate the clean removal of the suprapubic, perineal or retropubic enucleation. Until a few years ago, I contended that there were not more than 25 urologists in these United States who could do a really good transurethral prostatectomy. At the present time, I might raise that number slightly. Right now, the operation is suffering from a large number of inadequate resections. It is much better for a surgeon to concede that he cannot properly resect a prostate of over 50 Gm. than to attempt it and fail. Certainly, it was this operation that extended the limits of operability in prostatism, so that many aged sufferers who could not have had operative relief from prostatic obstruction can now be included as reasonable risks. The really great work of Reed Nesbitt took this operation out of the "punch operation" class and put it among the most highly technical of surgical procedures. There is a place for all of these operations, and every urologic surgeon should be not only familiar with each of these but also should be able to perform easily each of these operations.

DR. ABRAHAM FLEISCHMAN, Des Moines, Iowa: I was a participant in a dispute that occurred in this section more than a decade ago, when Dr. Morrissey was chairman and Dr. Herb was secretary—at that time I took issue with Drs. Elkhart and Thompson—in which I deprecated some of the shortcomings of transurethral resection. After more than a decade I want to retract what I said, that transurethral resection did not fulfil the certain requisites for proper removal of the prostate gland. I stated at that time that the procedure was limited only to the small gland. Today I want to say that the most dangerous procedure, as far as I am concerned, is the resection of the small gland, and not the moderately enlarged gland, and that I can do today a resection of a prostate up to 100 Gm. just as safely as I can a smaller gland. I would like to enumerate to you some of the difficulties and pitfalls in resecting some of the small glands. In the gland in which the fibrous tissue predominates, the so-called fibrous button, it is difficult to differentiate glandular tissue and fibrous tissue in some instances from the so-called false capsule. In the so-called large gland, in which the glandular tissue predominates, there is a great area which can be differentiated, and one can resect that particular gland because the glandular tissue does not approach the so-called fibrous capsule (by that I refer to the false capsule and not to the true capsule in its histologic structure). Then there is the so-called median bar, in which there is accentuation of the declivity of the posterior lip, which draws the verumontatum up close to the posterior lip. I have encountered many complications in this particular type of prostate, because in those instances the anatomic relations are distorted in a great measure. I do not agree with the protagonists of resection who insist that it is necessary to resect down to the true capsule. This complication of hemolysis that Dr. Foley and Dr. Creevy and other members of the Association have so carefully described can be averted if resection is limited to the so-called false capsule. The best results that I have had in transurethral resection have been in those cases in which only 18 to 25 Gm. of tissue have been removed.

DR. HENRY S. BROWNE, Tulsa, Okla.: Prostatic resection is strictly a cystoscopic procedure, and over a period of years I have evolved four simple cystoscopic rules for a successful resection which have stood the test of time. These are as follows: 1. With the sheath carefully centered and the verumontanum just visible, no prostatic tissue should fall into the open end of the sheath when it is rotated in a complete circle. 2. On examination with the retrospective telescope, the entire circumference at the junction of the operated area and the bladder should show no prostatic tissue projecting into the bladder at any point. 3. On examination of the prostatic cavity with the retrospective telescope, no tissue should be seen projecting into the cavity. 4. The verumontanum should be completely visible with the retrospective telescope. If these requirements are fulfilled, one can be assured of a good result in practically every case, as the chances of human error are reduced to a minimum. Better than 90 per cent of the hypertrophied gland will have been removed, so that the chances of recurrence are no greater than in other types of prostatectomy. Up to June 15 of this year, I have done 178 consecutive resections without a death. In 3 cases I had previously done resections from six to twelve years before. Two patients had previously had a prostatectomy. During this period two prostatectomics were done. Transurethral resection, when properly done, will give results as good as, or better than, any other type of prostatectomy with less mortality, less hospital stay and greater postoperative comfort to the patient. If results are not good it is not the fault of the resection, but of the resectionist.

COLONEL J. C. KIMBROUGH, Washington, D. C.: During the twenty-nine month period ending June 1, 1948, one hundred and eighty-four operations for prostatic diseases were performed at Walter Reed General Hospital: endourethral resection, 92; perineal, 83; suprapubic, 5, and retropubic, 4. One hundred and fifty-one operations were performed for benign disease, hyperplasia and calculi and 33 for malignant disease. The operations performed for benign disease were endourethral resection, 86; perineal, 77; suprapubic, 5, and retropubic, 3; for malignant disease the incidence was perineal (radical 24, conservative 2), 26; endourethral resection, 6, and retropubic, 1. The diagnosis in the 33 cases of malignant conditions of the prostate was established prior to operation or at operation in 31 patients. The diagnosis in 2 patients was made on laboratory examination. The radical procedure was carried out in all those except in 1 patient, 81 years old, in 1 with missed diagnosis and in 6 considered inoperable for whom endourethral resection was performed. Radical operation was feasible in 24 of the 33 patients (77.7 per cent). Endourethral resection is the treatment of choice in benign glands of grade I enlargement (usually not more than 60 Gm. of tissue were removed) and to relieve obstruction in advanced malignant conditions. Perineal prostatectomy is the operation of choice for large glands and malignant tissue amenable to radical removal. The suprapubic and retropubic operations were carried out for resident training purposes. It was necessary to open the wound for control of hemorrhage in two perineal operations and one retropubic operation. Urinary incontinence was rare in all the cases in which operations were performed except in the case in which there was radical operation for a malignant condition. Urinary incontinence was present in 3 of the 24 cases of radical operation (16.6 per cent). Incontinence is defined as the necessity for using an apparatus for urinary control. Sexual impotence is a frequent and serious squela of perineal prostatectomy.

DR. DANIEL R. HIGBEE, Denver: I should like to thank the discussants who agree that perineal prostatectomy still has a place in modern urology, particularly Dr. Morrissey, for his discussion and support, Dr. Ormond and Col. Kimbrough for pointing up my purpose in presenting this series of cases. If the public, through education, expects to be cured of prostatic malignant disease, we doctors should emphasize the need for repeated periodic examination and should be able to offer surgical treatment at a time when a cure may be expected. The fact that, by routine examination, Col. Kimbrough could detect such a large number of malignant conditions which were operable, is something which we cannot pass off lightly. I realize that the perineal operation is not popular, that it may be difficult and that at times it strains one's ingenuity; however, we are going to have to do more perineal operations and cure more persons of prostatic cancer if we are to maintain our prestige in our field of medicine.

SELECTIVE UTILIZATION OF BARBITURATES

As Illustrated by a Study of Butabarbital Sodium (N. N. R.)

ROBERT D. DRIPPS, M.D.
Philadelphia

Since the introduction of barbital in 1903, hundreds of barbituric acid derivatives have been synthesized and studied both pharmacologically and clinically. While these derivatives resemble one another in action, their effects on the central nervous system are not identical. Some have more tendency to produce excitement than others. Their depressant actions on various components of the central nervous system differ. Variations are noted in onset, intensity and duration of action and in the fate of these substances in the body. Some act promptly, powerfully and briefly and are destroyed in the body. Others are slower in action and milder, act over longer periods of time and are in large part excreted unchanged.

Qualitative differences among the barbiturates enable the clinician to select a specific barbiturate for a specific purpose, i. e., anticonvulsant, hypnotic, sedative or anesthetic. By the same token the physician should also take full advantage of the quantitative variations in actions offered by the drugs. For example, in the field of hypnosis, by varying the choice of the agent, one can provide sleep early in the evening or late in the night, of mild or intense degree or of short or long duration.

The purpose of this paper is to develop this thesis of selective utilization of the barbituric acid group and to illustrate the concept by reference to a new member, butabarbital sodium N. N. R. (sodium 5-ethyl-5-*sec.* butyl barbiturate),[1] the first extensive clinical survey of which, on 630 patients, is presented here.

PHARMACOLOGIC ASPECTS

A comprehensive investigation of the pharmacologic characteristics of butabarbital in animals has been made by Gruber, Ellis and Freedman.[2] These workers compared the drug to pentobarbital sodium, barbital and phenobarbital. Their results can be summarized as follows: Butabarbital was almost as prompt in action as pentobarbital sodium; it was intermediate between the short-acting and long-acting derivatives as far as duration of effect was concerned; it was more potent than phenobarbital and barbital and less potent than pentobarbital sodium. The drug appeared to be destroyed in the body, probably in the liver. There was no evidence of chronic toxicity even after six months of daily administration. Effects on the circulation, cardiac rhythm and respiration were similar to effects of other barbiturates.

Given a drug with these characteristics, one should be able to make a reasonable prediction as to its clinical utility. It would seem that this new barbiturate might be valuable in patients with renal disease in whom sedation was required. It should compare favorably with, or surpass, phenobarbital in the production of mild prolonged sedation. It should be useful as a sedative in aged persons. It probably would not be the drug of choice when an intense effect or a rapid action was desired. These possibilities have been confirmed and extended by this study.

METHOD OF STUDY

Three groups of patients were treated. The first group of 155 patients required hypnosis at bed time. The second group of 100 patients received the drug because of a variety of diseases requiring prolonged yet relatively mild sedation. The third was composed of 375 patients given butabarbital sodium as part of their preparation for surgical treatment, i. e., preoperative sedation. Dosage ranged from 15 to 300 mg. by mouth.

Data obtained on each patient included a history of previous experience with other sedatives (dose, type of drug, untoward reactions and subjective evaluation), a history of renal or hepatic disease (supplemented by laboratory studies of renal and hepatic function if indicated), observations on the onset, duration and intensity of action of butabarbital sodium, on sequelae following its administration (such as headache, gastrointestinal upset, dulness and irritability) and on the response of blood pressure, pulse rate and respiratory rate.

RESULTS

1. General Properties.—On the basis of data obtained from the 630 patients, certain general characteristics of butabarbital sodium can be described. The onset of action averaged between fifteen and thirty minutes after ingestion. The peak of action was generally reached within one and a half hours, and activity began to diminish in four to five hours. According to the classification of Fitch and Tatum[3] these properties would place butabarbital sodium in the intermediate group of barbituric acid derivatives from the point of view of onset and duration of action. The intensity of action of the drug can be defined as mild, resembling that of phenobarbital much more than that of the shorter-acting barbiturates, such as pentobarbital sodium, "amytal" (5-isoamyl-5-ethylbarbituric acid) or "seconal sodium" (sodium 5-allyl-5-[1-methylbutyl] barbiturate).

2. Toxicity.—No acute toxicity was observed, although the administration of 300 mg. by mouth in a single dose was followed by nausea and vomiting within fifteen to forty minutes in 16 per cent of the 55 patients receiving this amount. Gastric irritation from the large dose of barbiturate is suggested as the most likely explanation for this disturbance. The incidence and severity of "hangover" reactions will be discussed later. No significant respiratory depression was noted.

Several patients with impaired hepatic function were given 200 mg. of butabarbital sodium. Surprisingly little alteration in the intensity or duration of action was noted.

This should not be taken as an index of the safety of butabarbital sodium in the presence of hepatic damage. The studies of Gruber and his co-workers[2] indicate that the drug is destroyed in the body. The inference is that part or all of the detoxification takes place in the liver. It is well known that such substances may act more intensely and for a prolonged period when administered to patients with hepatic disease. That my few patients did not show such a response may be only coincidence or may be related to the relatively moderate degree of impairment of function. Hepatic disease of any extent should be regarded as a contraindication to the use of all barbiturates which are detoxified by this organ.

From the Division of Anesthesiology, Hospital of the University of Pennsylvania and the Harrison Department of Surgical Research, University of Pennsylvania School of Medicine.

1. Butabarbital sodium has been supplied by the McNeil Laboratories as "butisol sodium."

2. Gruber, C. M.; Ellis, F. W., and Freedman, G.: A Toxicological and Pharmacological Investigation of Sodium Sec-butyl Ethyl Barbituric Acid (Butisol Sodium), J. Pharmacol. & Exper. Therap. **81**: 254 (July) 1944.

3. Fitch, R. H., and Tatum, A. L.: Duration of Action of Barbituric Acid Hypnotics as a Basis of Classification, J. Pharmacol. & Exper. Therap. **44**: 325 (March) 1932.

There was no evidence of chronic toxicity. Thirty patients received the drug daily in doses of 50 to 100 mg. for periods of three to six months.

3. Hypnosis.—Butabarbital sodium was administered to 155 patients in 0.1 Gm. doses for the purpose of hypnosis. The patients were observed directly for a hypnotic effect and were questioned the following morning as to immediate and delayed subjective reactions. Twenty persons (13 per cent) showed no response to the drug; the remainder were either quieted in varying degrees or actually went to sleep.

Before one can consider the value of butabarbital sodium as a hypnotic, certain facts regarding insomnia should be understood. In some persons the major problem is that of getting to sleep. Once asleep these patients remain asleep for the rest of the night. In such circumstances the hypnotic of choice is one with a prompt and intense onset of action. In this category belong the shorter-acting barbituric acid derivatives. On the other hand, there are other patients who fall asleep without drugs, but who awaken in the early morning and toss restlessly for the remainder of the night. This is common in aged persons. For these the ideal hypnotic is one with a delayed onset of action and a less intense but more prolonged depression. Butabarbital sodium is extremely useful in these instances. A combination of the two types of insomnia can be treated readily by combining butabarbital sodium with a short-acting barbiturate.

One of the major objections to hypnotics is the "hangover" syndrome noted by many patients the morning following ingestion. The longer the duration of action of the depressant drug the greater will be its tendency to produce dulness, logginess, irritability or headache as an after-effect. The incidence of these side reactions in the 155 patients in this group was as follows: 28 (18 per cent) experienced dulness, weakness, dopiness or grogginess and 12 (8 per cent) experienced headache.

The utility of a particular hypnotic depends also on the cause of the insomnia. The barbiturates as a group possess no analgesic properties. They are of no value, therefore, in the relief of insomnia resulting from pain, and they are not so useful as other drugs in the treatment of insomnia related to dyspnea. Indeed, barbiturates are often contraindicated in the management of these patients, since the depression of judgment, volition and other higher cortical functions may render the patient excitable and uncontrollable. The role of the barbiturates in insomnia is therefore primarily in the management of the tense worried nervous person rather than the patient unable to sleep because of organic disease. The mild relatively prolonged action of butabarbital sodium makes this substance of value to many of the former patients. The "hangover" syndrome may militate against the general adoption of the drug as a hypnotic. This is as it should be, for a physician must treat each patient individually and cannot expect to employ a single hypnotic for all types of insomnia or for every person.

This study also served to reemphasize a point often overlooked by physicians in the prescription of a depressant drug to patients who may assume the upright position during the course of the drug's action. Although measurements of the circulation (cardiac output, pulse rate and blood pressure) are essentially normal in persons receiving narcotics as long as they remain supine, major changes are noted in many patients when they are placed in the head up position.[4] Such drugs apparently depress the vasomotor center and produce dilatation of certain vessels in the periphery. The body is thus less able to compensate for the circulatory stress of the upright position, and syncope results in a definite proportion of cases. In 1 patient who attempted to walk to the bathroom after receiving the sedative, a precipitous fall in blood pressure occurred, followed by loss of consciousness and epileptiform convulsions secondary to cerebral anemia. This same sequence of events has been noted after administration of morphine and meperidine hydrochloride.

4. Prolonged Sedation.—A tremendous quantity of barbituric acid derivatives are being prescribed by physicians today for the symptomatic treatment of a variety of functional and organic diseases. Phenobarbital is used in the majority of these instances, primarily because the shorter-acting derivatives (pentobarbital sodium, "seconal sodium" and "amytal") are too intense in their effect and act for too brief a period. Phenobarbital is destroyed in part in the body but is also eliminated as such by the kidneys. Impairment of renal function, therefore, may increase the toxicity of phenobarbital. Theoretically, butabarbital sodium would be useful as a substitute for phenobarbital in patients with renal damage who require sedation. Many aged persons might be included in this category. In addition, it appeared that the mild prolonged sedation of the drug might make it useful in a variety of conditions in which such therapy is indicated.

For these reasons 100 patients were given butabarbital sodium primarily for prolonged daytime sedation. The indications for treatment included:

Hypertension	17	Osteoarthritis	2
Epilepsy	17	Tabes	2
Hyperthyroidism	10	Nephritis	1
Anxiety states or menopausal neurosis	10	Peptic ulcer	5
		Retinal detachment	5
Congestive heart failure	10	Subacute bacterial endocarditis	2
Coronary occlusion	5	Ulcerative colitis	2
Bronchial asthma	2	Regional ileitis	2
Buerger's disease	2	Spastic colon	2
Angina pectoris	2	Acute rheumatic fever	2

The age of the patients ranged from 7 to 75 years. The dose of the drug varied from 15 to 50 mg., three to four times a day. The smaller doses were much more satisfactory, for amounts in excess of 30 mg. tended, in female patients particularly, to produce excessive sedation, depression and headache. Dose for dose, butabarbital sodium was more intense in its action than phenobarbital. At 15 mg. levels, however, the two drugs were about equal as far as use in adults was concerned. Relief of tension, diminution in anxiety and reduction in nervousness was evident as soon as the proper dose schedule was reached.

Twenty-five of the patients in the group were outpatients. The nervous component of the medical problem in these patients was improved or eliminated in many instances by use of the elixir as a vehicle for other indicated medication. Such complaints as the "dizziness" associated with hypertension or menopausal changes, insomnia, anxiousness and nervous tension were relieved in the majority of instances. The patients expressed themselves as "feeling more relaxed," "much

4. Drew, J. H.; Dripps, R. D., and Comroe, J. H., Jr.: Clinical Studies on Morphine: II. The Effect of Morphine upon the Circulation of Man and upon the Circulatory and Respiratory Response to Tilting, Anesthesiology **7**: 44 (Jan.) 1946. Dripps, R. D., and Comroe, J. H., Jr.: Circulatory Physiology: The Adjustment to Blood Loss and Postural Changes, S. Clin. North America **26**: 1326 (Dec.) 1946.

quieter," "less nervous" and "sleeping better." An occasional patient complained of headache within an hour of ingestion of the drug. Others spoke of being too "dopey." As a rule these complaints were eliminated by reduction in the dose of the drug.

The sedation for 17 patients with thyrotoxicosis being prepared for surgical intervention was provided by butabarbital sodium. In these patients the sedation afforded was helpful in the reduction of the basal metabolic rate. In 1 patient, apparently ready for operation and given butabarbital sodium for preoperative sedation, tachycardia developed (pulse rate 168) just prior to the induction of anesthesia. This may have been related to depression of the cardiac vagus, although Gruber and Keyser [5] reported that this drug is a much weaker vagal depressant than pentobarbital sodium or "seconal sodium."

Fifteen of the patients receiving prolonged sedation were 65 years of age or older. The results of 15 mg. doses in these patients were remarkably good. The patients were suffering from such conditions as peptic ulcer, coronary occlusion, hyperthyroidism, congestive heart failure and hypertension. Ten other patients were in the 60 to 65 year age group. The incidence of headache and logginess was lower in these older persons than in the younger subjects.

As indicated in the tabulation, 17 patients with idiopathic epilepsy were treated with butabarbital sodium. Some of these received the drug for six months. All had been getting phenobarbital. Three of the 17 were not as well controlled by butabarbital sodium, 12 noticed no difference and 2 stated the belief that they had less frequent seizures. My impression is that butabarbital sodium can replace phenobarbital in the treatment of epilepsy but offers no advantage over the latter drug.

5. Preoperative Sedation.—The ideal barbiturate for preoperative sedation would be a compound which was effective promptly when taken by mouth, would produce a distinct depression of the psyche without excitation and without affecting the circulation and respiration, would begin to wear off in two to three hours and would be free from "hangover effects." Although such a drug does not exist, certain of the short-acting members of the series are preferable to butabarbital sodium when judged by these criteria. Data obtained from 375 patients who received butabarbital sodium prior to operation substantiate this statement.

The mild depression produced by butabarbital was not sufficient to produce tranquillity in the face of an acute stress. Moreover, the prolonged action hampered early ambulation in certain patients. Barbiturates which act more intensely, more promptly and for a shorter period of time are preferable in these circumstances.

COMMENT

An analysis of the results obtained with butabarbital sodium indicates that this drug should be classed as an intermediate barbituric acid derivative from the point of view of onset, intensity and duration of action. It would appear that its greatest usefulness should be in the field of daytime sedation. The mild relatively prolonged action of the drug makes it suitable for management of many functional disorders and for the treatment of the nervous tension and anxiety associated with certain organic diseases, such as hyperthyroidism, peptic ulcer, hypertension, spastic colon and ulcerative colitis. Being independent of the adequacy of renal function as far as toxicity is concerned, it should be valuable in the treatment of patients with renal damage who require sedation or hypnosis. Anxiety states in the older age groups appeared to respond well to small doses of the sedative.

There are certain indications for barbiturate therapy in which butabarbital sodium would not be the drug of choice. Our results suggest that its intensity of action is not sufficient for this substance to be particularly useful as a preoperative sedative. Likewise, the slower onset and relative mildness make butabarbital sodium less efficient for immediate hypnosis than some of the shorter-acting more potent barbituric acid derivatives. In the therapy of epilepsy this substance appears to have no advantage over phenobarbital.

The balance sheet, therefore, can be regarded as showing both favorable and unfavorable items as far as butabarbital sodium is concerned. A similar analysis of other currently popular barbiturates would reveal much the same lack of balance. No one substance can be expected to meet all requirements or to be of value in all circumstances. The physician must select from the available drugs particular agents for specific indications. He should become familiar with the characteristics of a number of barbituric acid derivatives and prescribe the one which meets the needs of each person. Viewed in this way, the chief indications for butabarbital sodium would be prolonged daytime sedation and, secondarily, "delayed" hypnosis.

SUMMARY

A clinical survey of the characteristics and utility of a new barbituric acid derivative, sodium 5-ethyl-5-*sec.* butyl barbiturate (butabarbital sodium N. N. R.) has been made on 630 patients. The drug was found to be intermediate among barbiturates in respect to onset, intensity and duration of action. Because of its mild and relatively prolonged action, butabarbital sodium proved particularly useful in the field of daytime sedation and "delayed" hypnosis. Selection of specific barbiturates for specific purposes is urged.

5. Gruber, C. M., and Keyser, G. F.: Further Studies on the Depressant Actions of Barbiturates on the Terrapin Cardiac Vagus Nerve, J. Pharmacol. & Exper. Therap. **86**: 297 (March) 1946.

Some Functions of the Placental Trophoblast. — The trophoblastic chorionic epithelium is the essential parenchyma of the placenta. The trophoblast provides for the nutrition of the embryo by the destruction and absorption of parts of the uterine decidua and by the absorption of metabolites from the maternal blood circulating in the intervillous space. The transfer of various metabolites as well as the destruction of parts of the decidua is mediated by a variety of enzymes and chemical processes, some of which it is possible to study by histochemical means. In addition to these functions it has become evident in recent years from endocrinologic and chemical investigations that the placenta is an important endocrine organ which forms and secretes both steroid and chorionic gonadotrophic hormones. The formation of these lipid and protein bodies involves complex metabolic syntheses. The trophoblast is very rich in cytoplasmic ribonucleoproteins as can be demonstrated by suitable histochemical methods. The presence of a great amount of this substance in the early part of gestation suggests that the placenta is an important site of protein synthesis.—George B. Wislocki, M.D.; Edward W. Dempsey, Ph.D., and Don W. Faucett, M.D., Some Functional Activities of the Placental Trophoblast, *Obstetrical and Gynecological Survey*, October 1948.

GASTROSCOPIC APPEARANCES FOLLOWING VAGOTOMY

With Significance of Observations in Relation to Gastric Innervation

MOSES PAULSON, M.D.
and
EUGENE S. GLADSDEN, M.D.
Baltimore

This communication deals with gastroscopic observations following vagotomy alone and in conjunction with either gastroenterostomy or subtotal gastrectomy in the treatment of peptic ulcer. The observations for the most part were made during the first postoperative year.

MATERIAL

This material was divided into three groups:

1. Simple vagotomy, for conditions without abnormal communication between the stomach and the intestine. Included are cases in which supradiaphragmatic vagotomy was done ten to fourteen days following suturing for a perforated peptic ulcer (10 cases).

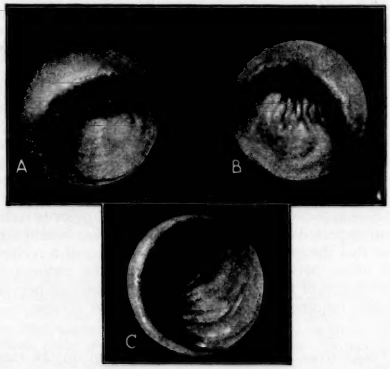

Fig. 1.—*A*, Results six months after suturing of perforated duodenal ulcer and transthoracic vagotomy. The reaction to the insulin test was negative. Relative peristaltic inactivity and patulousness of the antrum and the pylorus were present. The antrum covers most of the pyloric sphincter. *B*, one year after suturing for perforated duodenal ulcer with transthoracic vagotomy. The reaction to the insulin test was positive. Unusual occurrence of decided peristaltic activity of the antrum and pyloric sphincter. *C*, seven months after suturing for perforated ulcer with transthoracic vagotomy. The reaction to the insulin test was negative. There was the usual picture of peristaltic inactivity and patulousness of the pylorus.

2. Vagotomy with gastroenterostomy (5 cases).

3. Vagotomy with subtotal gastrectomy (9 cases).

RESULTS

1. *Simple Vagotomy.*—In cases in which simple vagotomy was done the stomach was usually found to be large and atonic, with little evidence of peristaltic activity. There was no edema, thickening, erythema or friability, and the mucosa was of normal color. No significant alterations were noted in the rugal pattern. The antrum was usually dilated or atonic and relatively devoid of peristalsis. The pyloric sphincter was seen completely with ease, a condition which does not generally obtain in the nonvagotomized stomach, where only occasional glimpses of the pylorus are observed in whole or in part (fig. 4). This structure was unexpectedly observed to be patulous and continually open, except at such times when an occasional peristaltic wave passed over and momentarily contracted it. The pyloric entrance was wider than is seen in normal circumstances (fig. 1 *A* and 1 *C*). Within the first year, a tendency toward restoration of normal tone and peristalsis was noted (fig. 1 *B*). No consistent relationship could be demonstrated between these changes in the stomach and "positive" or "negative" reactions to insulin tests which indicate incomplete and complete bilateral vagotomy, respectively.

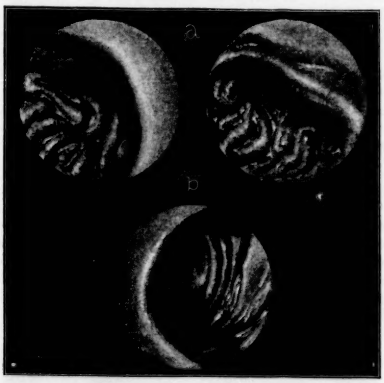

Fig. 2.—Gastroenterostomy and vagotomy of six months' duration, showing flaccidity of the antrum and pyloric sphincter (*a*) as well as patulousness of the stoma (*b*); here, too, there is negligible peristaltic activity.

2. *Vagotomy with Gastroenterostomy.*—All changes noted previously, including patulousness of the pylorus, were seen. The stomal openings tend to be more patulous and less active than is seen in gastroenterostomy without vagotomy (fig. 2). In addition, mucosal alteration of a superficial nature, consisting of erythema and rarely of edema and thickening, was encountered.

Fig. 3.—Eight months after subtotal gastric resection with vagotomy in a 62 year old Negro woman. This shows erythema, edema and friability in the residual stomach, with a patulous inactive stoma and a relatively normal jejunum (stomach, left; jejunum, right).

From the Department of Medicine (Gastrointestinal-Nutritional Division and Laboratories) of the Johns Hopkins University and Hospital, Baltimore.

Assistant Professor of Medicine, Johns Hopkins University; Physician, Johns Hopkins Hospital, and Consultant in Gastroenterology to its Diagnostic Clinic (Dr. Paulson) and Mead Johnson Fellow in Medicine, Johns Hopkins University (Dr. Gladsden).

Here the insulin test not infrequently is of questionable value, because of reflux of alkaline intestinal contents into the stomach.

3. *Vagotomy with Subtotal Gastric Resection.*—In every case there were fairly pronounced mucosal changes in the residual gastric pouch, erythema and thickness, with occasional edema (fig. 3). The stomal openings were usually larger than one usually sees in subtotal gastrectomy,[1] and the jejunum evidenced relatively mild mucosal change on one occasion. In cases in which insulin tests were made, the reactions were negative. However, this test is unreliable in subtotal gastrectomy, because of the reduced gastric secreting mucosa and to the regurgitation and admixture of intestinal contents.[2]

4. *Controls.*—The dilated, relatively inactive stomal opening, the semiquiescent antral atony and particularly the patulousness of the pylorus are not due to morphine, atropine and phenobarbital sodium given by us hypodermically one-half hour preceding gastroscopy as a step in preparation of this examination. Such administration in those with similar conditions but without vagotomy generally fails to reveal these gastroscopic changes.

Fig. 4.—Six months after simple suturing of perforated duodenal ulcer without vagotomy. Successive stages of a peristaltic wave passing through the antrum and pylorus. Here tone, peristaltic activity and behavior of the pylorus were normal. (Contrast with figure 1 *C*.)

COMMENT

Because of existing data, gastric atony or dilatation, peristaltic inactivity and varying degrees of retention of gastric contents were expected. Such changes as easier visualization of the pylorus, and mucosal alteration in those cases in which the condition was associated with gastroenterostomy and subtotal gastric resection can also be explained. Pyloric visualization is easier possibly because of the dilatation of the stomach, allowing for deeper introduction of the gastroscope, as well as increased antral size. The mucosal changes seen here are similar to mucosal changes seen in cases of subtotal gastric resection without vagotomy.[3] Therefore, vagotomy *per se* does not protect against the gastritis of the postoperative stomach. The mucosal changes are chiefly gastric. The jejunum, the usual site of marginal ulceration when it occurs, appears to be less involved.

We are impressed with the observation that the greater the disturbance of gastric structure and function, the greater the gross mucosal alteration. Thus, in simple vagotomy there is negligible change; where gastroenterostomy is added, it is somewhat more definite, but it appears greatest in subtotal gastrectomy, with or without vagotomy.

It is generally accepted that stimulation of the vagus nerves (parasympathetic), as they pertain to the stomach, usually causes increased gastric tone and peristaltic activity and relaxation of the pyloric sphincter. Stimulation of the sympathetic nerve supply to the stomach has the opposite effect.[4] Therefore, it was to be expected that section of the parasympathetic (vagus) nerve supply to the stomach would create a state of autonomic imbalance wherein the sympathetic influence would act relatively alone, unopposed by the antagonistic effects of the parasympathetic system. The resulting effect would be comparable to sympathetic stimulation with resulting gastric atony, peristaltic inactivity and pyloric contraction. As already noted, although the effect on the stomach is what was anticipated, the influence on the pylorus appeared to be just the opposite of that expected, namely, patulousness.

This observation has been confirmed by our surgeons on reoperation in 3 cases of simple vagotomy because of resulting intractable gastric dilatation and retention. They commented on the "patulousness of the pyloric canal," that more fingers can be inserted into the pylorus than is ordinarily possible in cases without vagotomy and that there was no obstruction of the pyloric outlet. Thus, it would appear that gastric emptying may be more dependent on gastric tone and peristalsis than pyloric tonicity when bilateral vagus section has been performed.

This apparent occurrence of an "open" pylorus rather than expected contraction on vagal section would suggest that the generally accepted hypothesis of a reciprocal effect between the stomach and the pylorus on stimulation of the components of the autonomic nervous system requires further investigation and review.

SUMMARY

Gastroscopic studies were carried out in 24 cases with vagotomy alone, with gastroenterostomy and with subtotal gastric resection made during the first postoperative year. In simple vagotomy, the observations were gastric dilatation and atony, peristaltic inactivity and lack of mucosal change. An unexpected observation was patulousness of the pylorus rather than the anticipated contraction. This observation at the pylorus casts doubt on the accepted theory of reciprocal effect of the autonomic nerve supply on the stomach and pylorus. It stresses the importance of gastric tone and peristalsis, rather than pylorospasm, in postvagotomy gastric retention.

In vagotomy with gastroenterostomy the mucosal changes were not as pronounced as in those with vagotomy and subtotal gastrectomy. In both instances, the stoma was patulous and relatively inactive. In some instances, after many months, a tendency to reversion to normal tone was noted, but the mucosal alterations, particularly in subtotal gastrectomy, tended to persist. Since similar mucosal changes are seen in similar circumstances in those without vagotomy, vagotomy per se does not protect against postoperative gastritis and jejunitis.

11 East Chase Street.

1. Paulson, M., and Gladsden, E. S.: Partial Gastrectomy: The Clinical, Gastroscopic and Radiological Considerations, Gastroenterology **10**: 970-977 (June) 1948.

2. Paulson, M., and Gladsden, E. S.: Symposium on Vagotomy for Peptic Ulcer: III. Medical Aspects of Vagotomy for Peptic Ulcer, Including Observations on the Clinical Value of the Insulin Test and on Post-Operative Criteria for the Completeness of Bilateral Gastric Vagus Section, Bull. Johns Hopkins Hosp. **81**:107-128 (Aug.) 1947.

3. Paulson, and Gladsden,[1] Schindler, R.: Die diagnostische Bedeutung der Gastroskopie, München. med. Wchnschr. **69**: 535-537 (April 14) 1922.

4. Fulton, J. F.: Physiology of the Nervous System, ed. 2, New York, Oxford University Press, 1943, p. 214. Wiggers, C. J.: Physiology in Health and Disease, ed. 4, Philadelphia, Lea & Febiger, 1944, p. 784. Necheles, H., in Portis, S. A.: Diseases of the Digestive System, ed. 2, Philadelphia, Lea & Febiger, 1944, p. 114.

Clinical Notes, Suggestions and New Instruments

DEATH FOLLOWING USE OF TETRAETHYLAMMONIUM CHLORIDE

RICHARD P. LASSER, M.D.
NORMAN ROSENTHAL, M.D.
and
LEO LOEWE, M.D.
Brooklyn

The autonomic blockading effect of the tetraethylammonium ion was first reported by Acheson and Moe [1] in 1945. Because of the multitude of possible therapeutic and diagnostic uses, this drug has received increasing clinical application. Reports of its use in hypertension,[2] causalgic states, peripheral vascular disease, coronary artery disease and gastrointestinal tract disease have appeared recently. In the vast majority of instances of its use, the effects produced were transient and inconstant and consisted mainly of a slight to moderate fall in blood pressure,[3] tachycardia, decreased venous pressure, increased blood flow to the extremities, cutaneous flush, increase in skin temperature and decrease in sweating, salivation, bladder tone and gastrointestinal tract motility.[4] All effects are apparently due solely to blockage at the peripheral autonomic ganglions of sympathetic and parasympathetic outflow. Toxic effects have been infrequent. The outstanding adverse effect has been noted in a small group of hypertensive patients in whom a severe depression of the blood pressure with associated vascular collapse and signs of cerebral anoxia [3] have been observed. One similar severe shocklike reaction in a patient with a normal blood pressure has also been recently reported.[5]

These toxic reactions all resulted in complete recovery, and to our knowledge the case here being reported is the first death attributable to tetraethylammonium chloride.

REPORT OF A CASE

First Admission.—The patient was a 33 year old white woman who had been symptomatically well until six weeks before her first admission, in July 1947, at which time diplopia suddenly developed followed a day later by left abducens paralysis. Her systolic blood pressure was 240 mm. of mercury at that time and remained continuously elevated thereafter. Her eye signs cleared in about ten days, and then frontal and occipital headaches of moderate intensity developed. She was reported to have had albuminuria but no hematuria, and no past history of renal disease was elicitable. She had lost 12 pounds (5 Kg.) in the six weeks preceding admission. A family history of maternal hypertension was present. She was admitted to the surgical service for the purpose of having a sympathectomy.

Results of Physical Examination: The patient's temperature was 98.2 F., the pulse rate 80, respirations 16 and blood pressure 260 systolic and 150 diastolic. She was moderately anemic but in no distress. The salient physical observations were as follows: There was some exophthalmos. The optic disks showed some haziness of their borders but no elevation; the arterioles were spastic, and there were cotton-wool type exudates bilaterally. Examination of the heart revealed the point of maximal impulse to be in the sixth intercostal space at the midclavicular line. The sounds were of good quality, with the aortic second sound tambour-like and greater than the pulmonic second sound in intensity. There were no murmurs or thrills. No signs of cardiac decompensation were present. The impression on admission was that the patient had essential hypertension, with chronic glomerulonephritis and pheochromocytoma to be considered.

Laboratory Data: The hemoglobin was 70 per cent, the red blood cell count 3,730,000 and white blood cell count 7,000, with a normal differential count. The urine was acid, with 2 plus albumin, no sugar and occasional white cells. The concentration test showed a maximal concentration of 1.018. Blood sugar was 80 and urea nitrogen 18.0 mg. per hundred cubic centimeters. Urea clearance was 28.6 per cent of normal and the basal metabolic rate + 14 per cent. The electrocardiogram showed regular sinus tachycardia, no axis deviation, with the R-T segment in leads 2 and 3 depressed and the T wave diphasic in lead 2 and inverted in lead 3. A roentgenogram of the chest revealed some rounding of the left ventricle. Intravenous pyelography showed rather small kidneys with good function bilaterally and no deformity of the pelvis or the calyceal system.

A "sodium amytal" N. N. R. (sodium isoamylethylbarbiturate) test was done, with an initial blood pressure of 250 systolic and 150 diastolic and a maximal decline to 160 systolic and 120 diastolic several hours after heavy sedation.

A medical consultant was of the opinion that this was a case of chronic glomerulonephritis with secondary hypertension and felt that surgical intervention was not advisable. The patient was discharged.

Second Admission.—She was admitted to the medical service of this hospital on March 8, 1948, about eight months after her discharge. Eight months and six months previously she had been hospitalized elsewhere and had undergone a two stage sympathectomy with removal of the sympathetic chain bilaterally from the level of the fifth thoracic to and including the third lumbar ganglion and removal of the splanchic system to the celiac plexus. Her blood pressure had only a transient fall to below 200 mm. of mercury, but her headaches disappeared almost completely. Five weeks before this final admission she began to have a sanguinous discharge of moderate proportions from the vagina, which continued intermittently until the day of admission. For four weeks she had nausea and vomiting. One week before admission her eyesight became poor, and there was rapid progress to almost complete blindness. For five days she had steady throbbing retro-orbital headache. For two days there had been epistaxis. Physical examination revealed a pale cachectic white woman with pronounced proptosis and almost complete loss of vision. The ocular fundi were the seat of advanced hypertensive changes, with obscuration of the disks by large exudates and many recent and old hemorrhages spread throughout. There were bloody incrustations in the nose and blood on the posterior pharyngeal wall. The lungs had diminished resonance and distant breath sounds throughout. The heart was enlarged to the left, with the mitral second sound and the aortic second sound accentuated, and there were no murmurs or thrills. Blood pressure was 220 systolic and 100 diastolic. No peripheral edema or venous engorgement was noted. The clinical impression was that she had essential hypertension rather than hypertension secondary to renal disease.

Laboratory Data: Urinalysis revealed albumin (2 to 3 plus), with varying quantities of red and white cells; maximum specific gravity was 1.010. The hemoglobin was 55 per cent, red blood cell count 2,600,000 and white blood cell count 18,000, with 85 per cent polymorphonuclear leukocytes. The platelet count was 175,000 per cubic millimeter. Bleeding time was ½ minute and clotting time 2½ minutes. Blood sugar was 110 and urea nitrogen 78.4 mg. per hundred cubic centimeters. Cholesterol was 220 and esters 147 mg. per hundred cubic centimeters. The blood culture was negative.

The patient's course was relentlessly downhill, with persistent and sustained hypertension. Inasmuch as there seemed little else to offer her it was decided to give tetraethylammonium chloride to see whether her hypertension could be modified and whether this would aid in producing a clinical remission and symptomatic relief. On March 12, at 6:45 p. m., 5 cc. (500 mg.)

From the Medical Service of Dr. Leo Loewe, Jewish Hospital of Brooklyn.

1. Acheson, G. H., and Moe, G. K.: Some Effects of Tetraethylammonium on the Mammalian Heart, J. Pharmacol. & Exper. Therap. **84**: 189, 1945; Action of Tetraethylammonium Ion on Mammalian Circulation, ibid. **87**: 273, 1946.

2. Lyons, R. H.; Hoobler, S. W.; Neligh, R. B.; Moe, G. K., and Peet, M. M.: Experiences with Tetraethylammonium Chloride in Hypertension, J. A. M. A. **136**: 608 (Feb. 28) 1948.

3. Lyons, R. H.; Moe, G. K.; Neligh, R. B.; Hoobler, S. W.; Campbell, K. N.; Berry, R. L., and Rennick, B. R.: The Effects of Blockade of the Autonomic Ganglia in Man with Tetraethylammonium, Am. J. M. Sc. **213**: 315, 1947.

4. Chapman, W. P.; Stanbury, J. B., and Jones, C. M.: The Effect of Tetraethylammonium on the Small Bowel of Man, J. Clin. Investigation **27**: 34, 1948.

5. Friedlich, A. L., Jr.; Chapman, W. P., and Stanbury, J. B.: Severe Reaction to Tetraethylammonium Chloride, New England J. Med. **238**: 629, 1948.

of tetraethylammonium chloride ("etamon") was given intravenously over a five minute interval. Within thirty minutes the blood pressure had fallen from 230 systolic and 140 diastolic to 60 systolic and 20 diastolic, and the patient was cyanotic, comatose and in evident shock with belabored respiration. Nikethamide ("coramine") and epinephrine were given intravenously and later by the intracardiac route. By 10:30 p. m. the blood pressure had returned to 120 systolic and 90 diastolic, but her respirations were slow (8 to 10 per minute) and she appeared only little improved. Her pulse rate was 110 and thready, and her skin was cold and moist. Her blood pressure again fell to shock levels, and at 12:30 a. m., slightly less than six hours after the administration of the tetraethylammonium chloride, she died.

Postmortem Observations.—At autopsy, numerous ecchymoses were seen scattered over the trunk and extremities and a bloody discharge from the nose and vaginal orifice was present. There was 150 cc. of clear amber fluid in each pleural cavity. In the heart subepicardial petechiae were present. The papillary muscles of the left ventricle were hypertrophied; the left ventricular cavity was dilated, and the interventricular septum bulged into the right ventricle. Coronary arteries showed moderate atherosclerosis, but no narrowing of the lumen. The lower lobes of both lungs were beefy red and airless. The pancreas was intensely congested. Pinhead-sized circular hemorrhagic areas were scattered over the surface of the kidneys.

Microscopic Data: Widespread arteriolonecrosis was evident in the spleen, adrenals, ovaries and, to a lesser extent, pancreas and kidneys. Small-sized arteries were also occasionally involved by the same process. Sections from the heart showed only hypertrophy of the myocardial fibers and no myofibrosis. The alveoli of all lung sections were filled with fresh red cells, large macrophages, occasional polymorphonuclear leukocytes and eosinophilic granular material. Bronchioles showed severe epithelial degeneration and desquamation. Large areas of fresh hemorrhage were noted scattered throughout the parenchyma of the pancreas. Several foci of necrotic acinar tissue, the result of small infarctions, were seen, and bordering these areas were arteries with partial necrosis of their walls. The adrenal cortex was greatly increased in width because of hypertrophy and hyperplasia of the cells of the zona fasciculata and reticularis. The kidneys showed changes considered secondary to vascular disease. Medium-sized and small-sized arteries showed reduplication of the elastic lamella, hypertrophy and hyalinization of the mediums, and pronounced concentric intimal thickening and luminal narrowing. Many arteries were completely occluded by this process. Afferent and efferent arterioles were also decidedly hyalinized and narrow.

Glomerular pathologic changes reflected the two types of vascular disease, and about one half of the total number were completely hyalinized. Large numbers of other glomeruli were partly hyalinized, and varying fractions of the tuft were avascular. This change was considered secondary to chronic endarteritis. A few glomeruli showed acute thrombonecrotic lesions and acute glomerulitis consisting of proliferation of the cells of the capillary endothelium and of Bowman's capsule. Extensive atrophy of the tubules was present, and small areas of regeneration were also seen. The proximal convoluted tubules showed severe cloudy swelling and desquamation. The distal convoluted tubules and the collecting tubules showed severe widespread nuclear karyorrhexis and desquamation of the tubular epithelium. Many casts composed of cellular debris were present in the collecting tubules. The pathologic changes in the blood vessels and in the kidneys were considered compatible with the clinical diagnosis of a malignant phase of essential hypertension. The hemorrhage in the lungs was recent and probably terminal, and the pancreatic pathologic changes resulted from the acute thrombonecrotic arteritis.

COMMENT

We believe that this death was directly attributable to the use of tetraethylammonium chloride. The sudden fall in blood pressure from excessively high to shock levels following injection of the drug could reasonably be attributed to no other cause. This toxic reaction was not dissimilar to the ones previously reported[6] in groups of patients with a comparably high diastolic pressure, except for its intensity, prolonged duration and fatal result. In as much as tetraethylammonium chloride is excreted almost quantitatively in the urine, 50 per cent appearing in the first thirty minutes, and this patient suffered from decided renal functional impairment, it is conceivable that the prolonged effect is due to diminished excretion of the drug. Postmortem observations did not reveal any coincidental pathologic change which might have been held responsible for the sudden vascular collapse. It is interesting that such a severe depressor reaction occurred in a patient who had had an extensive sympathetic resection.

SUMMARY

A case in which death followed the intravenous injection of 500 mg. of tetraethylammonium chloride in a patient with malignant hypertension is presented. The danger of a severe toxic reaction to a patient in the malignant phase of essential hypertension is emphasized. The possibility that renal functional impairment may have prolonged the action of the drug is suggested.

Council on Physical Medicine

The Council on Physical Medicine has voted to adopt the following statement. HOWARD A. CARTER, *Secretary.*

REBATES

Recently the Council on Physical Medicine adopted for publication the statement "Rebates" (THE JOURNAL, Oct. 30, 1948, p. 650). At its annual meeting on December 10, the Council expressed the opinion that such matters should be considered by the Judicial Council of the American Medical Association and voted to withdraw the statement. Therefore this statement is withdrawn.

Council on Pharmacy and Chemistry

REPORT TO THE COUNCIL

The Council has authorized publication of the following report. AUSTIN SMITH, M.D., *Secretary.*

NEWER ADRENOLYTIC, SYMPATHOLYTIC, AND GANGLIONIC BLOCKING DRUGS

KEITH S. GRIMSON, M.D.
JAMES P. HENDRIX, M.D.
and
M. J. REARDON, M.D.
Durham, N.C.

Drugs capable of blocking vasoconstricting and blood pressure elevating effects of epinephrine have been known for many years. Early examples are ergotoxin, the Fourneau compound 933F and yohimbine. These drugs in higher dose range often depress sympathetic activity as judged by vasomotor reflexes. Other drugs such as ergotamine tartrate and 833F more potently depress or block sympathetic reflexes. In general usage these drugs are referred to as adrenolytic or sympatholytic compounds, since they block conduction along important efferent sympathetic nerve pathways. Properly an adrenolytic agent is one which nullifies an important effect of epinephrine, whereas a sympatholytic agent is one which nullifies sympathetic nerve transmission, usual reference being to adrenergic pathways controlling blood vessels and usual site of action being at the end organ. Although a sympatholytic drug by strict definition must be adrenolytic, the reverse is not necessarily true. Certain drugs may be adrenolytic only, since adrenolysis

6. Lyons, Hoebler, Neligh, Moe and Peet.[3] Lyons, Moe, Neligh, Campbell, Berry and Rennick.[3]

From the Department of Surgery and Medicine, Duke University School of Medicine.

uniformly requires less potency or a lower dose than that necessary for sympatholysis. Interruption of sympathetic nerve transmission may also be produced by other agents acting directly on ganglions without antagonizing epinephrine.

Although early experimental results with adrenolytic and sympatholytic drugs were promising, most compounds exhibited toxicity or produced undesirable side effects that discouraged clinical use. Currently, of this group, only 933F, piperidylmethyl benzodioxane, is receiving extensive clinical trial. It is used as an aid in the diagnosis of epinephrine-producing tumors (pheochromocytomas). Goldenberg, Snyder and Aranow [1] have worked out a dosage range in which the drug normally produces moderate elevation of blood pressure. Evidently a similar amount produces reduction of blood pressure if patients have hypertension associated with an adrenal tumor. This use is promising and evidently safe.

Extensive clinical trial of drugs with sympatholytic properties has developed recently using preparations such as "priscol" (2-benzyl-4, 5-imidazoline hydrochloride) and "dibenamine hydrochloride" (N,N-dibenzyl beta-chloroethylamine hydrochloride). These are adrenolytic and in sufficient dosage also block sympathetic vasoconstrictor pathways. They act peripherally and depress or block reflex vasopressor responses. Both have certain disadvantages. "Priscol" may produce side effects such as flushing of the skin, goose flesh, nausea, apprehension, palpitation and, in larger doses, disabling postural hypotension. Under continuing treatment these symptoms are usually mild and not seriously objectionable. "Priscol" may be given orally, intravenously, subcutaneously or intramuscularly. "Dibenamine" also may produce objectionable side effects including occasionally central toxic symptoms or confusion states. It is usually given intravenously. This disadvantage is offset, however, by prolonged action lasting for many hours to a day or two. Properties of "priscol" have been reviewed by Meier and Muller [2] and Ahlquist, Huggins and Woodbury.[3] Our group [4] has found "priscol" often valuable as a treatment for peripheral vascular disorders, particularly Raynaud's disease, traumatic or reflex vasospasm, and certain causalgias. The important properties of "dibenamine" have been reviewed by Nickerson and Goodman [5] and others. Clinical trial of these drugs has yielded only a little encouragement in the treatment of hypertension but has developed definite potential use as a substitute for regional sympathetic block or actual sympathectomy in peripheral vascular disease problems.

A third drug receiving extensive clinical trial differs from those cited above in that it acts as a generalized ganglionic blocking agent and is not adrenolytic. It belongs to a group of drugs which like nicotine and curare are able to block conduction through ganglions of the autonomic nervous system and may be referred to as ganglionic blocking agents. This drug, "etamon chloride" (tetraethylammonium chloride), although long known, only recently has been extensively studied and used clinically. Acheson and Moe [6] and their associates have thoroughly examined both pharmacologic and therapeutic actions. Its ganglionic blocking action is general and thus not only interrupts sympathetic impulses but also interferes with parasympathetic transmission, producing loss of accommodation, cessation or decrease of motility of the gastrointestinal tract and alteration of urinary bladder function. Its effects are promptly interrupted by administration of neostigmine.[7] Tetraethylammonium chloride may be given intravenously or intramuscularly. Favorable results of its use in vasospastic peripheral vascular disorders and causalgias are reported.

Marked temporary reduction of blood pressure can be produced by "priscol," "dibenamine" or tetraethylammonium chloride in patients with normal blood pressure or with hypertension. Partial obstruction of coronary or cerebral arteries is often present in patients with arterial hypertension or peripheral vascular disease. Occasionally, in patients of this type cerebral or myocardial ischemia has developed after reduction of blood pressure following drugs. Although not reported in the literature, deaths have occurred following use of tetraethylammonium chloride or "dibenamine" according to information made available to the authors. Therefore sympatholytic or ganglionic blocking drugs should be used with caution. Of the three drugs described reduction of blood pressure seems to be most easily avoided with "priscol," since a dose of 25 to 50 mg. every three or four hours permits dilation of blood vessels of the extremity without significant reduction of blood pressure. The dose range required for an appreciable fall of pressure with this drug is 75 to 200 mg. Reduction of blood pressure caused by "dibenamine" or "priscol" can be counteracted by administration of posterior pituitary but not by neostigmine.

These drugs have been reported useful in a variety of clinical conditions, including Raynaud's disease, arteriosclerotic obstructive vascular disease, thromboangiitis obliterans, causalgias, phlebothrombosis or thrombophlebitis, acute ischemia, livedo reticularis, acrocyanosis, trench and immersion foot, lymphedema, post-traumatic edema, frostbite, scleroderma, postherpetic neuralgia and hypertension. Nevertheless, each of the drugs has limitations and, although valuable for certain of these clinical problems and useful as research tools, they have not yet received the widespread clinical trial necessary for them to qualify as standard therapeutic agents. Qualification will depend on proper use in well selected patients who are closely observed by their physicians. Although promiscuous use of these drugs might be dangerous, reports of extensive and careful clinical trial would indicate that judicious employment for the present may be encouraged. It is hoped that some of the numerous adrenolytic, sympatholytic or ganglionic blocking preparations now being developed may permit extension of advantages and decrease of side effects.

1. Goldenberg, M.; Snyder, C. H., and Aranow, H., Jr.: New Test for Hypertension Due to Circulating Epinephrine, J. A. M. A. **135**: 971 (Dec. 13) 1947.

2. Meier, R., and Muller, R.: Gefaswirkung eines neuen Imidazolin-Derivates, Schweiz. med. Wchnschr. **69**: 1271, 1939.

3. Ahlquist, R. P.; Huggins, R. A., and Woodbury, R. A.: The Pharmacology of Benzyl-Imidazoline (Priscol), J. Pharmacol. & Exper. Therap. **89**: 271, 1947.

4. Grimson, K. S.; Reardon, M. J.; Marzoni, F. A., and Hendrix, J. P.: The Effects of Priscol (2-Benzyl-4, 5-Imidazoline HCl) on Peripheral Vascular Diseases, Hypertension and Circulation in Patients, Ann. Surg. **127**: 968, 1948.

5. Nickerson, M., and Goodman, L. S.: The Pharmacology of a Series of New Sympatholytic Agents, Proc. Am. Federation Clin. Research **2**: 109, 1945.

6. Acheson, G. H., and Moe, G. K.: Some Effects of Tetraethylammonium on the Mammalian Heart, J. Pharmacol. & Exper. Therap. **84**: 189, 1945; The Action of Tetraethylammonium Ion on the Mammalian Circulation, ibid. **87**: 220, 1946.

7. Reardon, M. J.; Marzoni, F. A., and Hendrix, J. P.: The Effect of Neostigmine (Prostigmine) on the Action of Tetraethylammonium (Etamon) in Dogs and Man, Federation Proc. **6**: 364, 1947.

NEW AND NONOFFICIAL REMEDIES

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application.

AUSTIN SMITH, M.D., *Secretary.*

POISON IVY-POISON OAK EXTRACT COMBINED. — Ivoko-Pitman-Moore. — A combination of equal parts of the extracted solids of the dried leaves of poison ivy and oak prepared in accordance with requirements of the National Institute of Health.

Actions and Uses.—Poison Ivy-Poison Oak Extract Combined is used for the prevention of symptoms of dermatitis due to contact with either of these plants.

Dosage.—Parenteral injections of the number and volume recommended for the product used. The interval between doses is usually two weeks.

An extract standardized to contain 1 mg. of total extracted solids (0.5 mg. of each) per cubic centimeter is administered in an average dose of 0.1 cc. of the extract diluted to a volume of 1 cc. In hypersensitive persons, one twentieth of that dose should be used as a test dose and the dose then gradually increased to the average. It is administered at intervals of one to three weeks during exposure.

PITMAN-MOORE COMPANY

Ivoko Poison Ivy-Poison Oak Extract with Sterile Diluent: 1 mg. extracted solids per cc., 1 cc. vials each packaged with six 0.9 cc. vials of 0.5 per cent procaine hydrochloride in isotonic sodium chloride solution. Preserved with chlorobutanol 0.4 per cent as a sterile diluent.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 NORTH DEARBORN STREET - - CHICAGO 10, ILL.

Cable Address - - "Medic, Chicago"

Subscription price - - - - - Twelve dollars per annum in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent. Such notice should mention all journals received from this office. Important information regarding contributions will be found on second advertising page following reading matter.

SATURDAY, JANUARY 15, 1949

THE DRIFT TOWARD A SOCIALIST DEMOCRACY

The consensus of editorial writers whose opinions have become available on the address given by President Truman to the Congress on January 5 indicates their point of view that the President is considerably left of what used to be called the New Deal. The Congress, if it should adopt any considerable number of the recommendations made, would move the nation away from its present status as a republic or a true democracy into a condition which resembles what is called in Europe a socialist democracy. Adhering to the pattern followed by other nations in this drift, President Truman said:

> We must spare no effort to raise the general level of health in this country. In a nation as rich as ours it is a shocking fact that tens of millions lack adequate medical care. We are short of doctors, hospitals and nurses. We must remedy these shortages. Moreover we need, and we must have without further delay, a system of prepaid medical insurance which will enable every American to afford good medical care.

A careful analysis of the statement quoted indicates the necessity for an absolute denial of the statement made that "tens of millions lack adequate medical care." Such statements should not be made without the ability to produce the evidence in their support. As far as can be determined by all available studies, and particularly recent studies, that statement is not supported by competent evidence.

The President says that we are short of doctors, hospitals and nurses. Actually the United States, as was proved in a statement published in these columns recently, has more doctors in proportion to the population than any other country in the world, whether with or without a system of socialized medicine. True, there are faults of distribution of physicians which need to be remedied. The faults, however, are related to economic rather than other factors. The Congress has passed and the government has implemented the Hill-Burton Act for increasing hospitals about as rapidly as they can be increased. The chief difficulty at present is the difficulty of finding personnel to staff such hospitals and the economic conditions sufficient to support such hospitals.

The American Nurses' Association, the American Red Cross, the American Surgical Association, the American College of Surgeons, the American Medical Association and, in fact, all organizations in this country interested in the utilization of nurses have been working on technics for increasing the available supply of nurses, and enrolments were 5,000 more in 1948 than in 1947; the total answer is not yet apparent. If the federal government or any of its agencies has an answer to the problem of the nurse supply, that answer will be welcomed by the medical profession. Many of the nurses themselves insist that it is simply a question of adequate remuneration in comparison with what other employees, particularly those affiliated with unions, are paid for their services.

The final sentence of Mr. Truman's recommendation brings some interesting thoughts. The first time he uses the words "adequate medical care" and the second time "good medical care," whereas Mr. Ewing usually says "proper medical care." What is needed at this time is a definition by some appropriate agency of these terms "adequate," "good" and "proper." There is plenty of evidence that the kind of medical care given in other countries under such systems as that proposed for the United States has no resemblance to the quality of medical service that now prevails in the United States. When diagnosis is made on the basis of one or two questions and when therapy is provided on the same basis, when doctors try to see from 40 to 100 patients a day in order to give the kind of medical care that can be given under such circumstances—and that is the case in many of the countries that have these systems—the medical care cannot be characterized as "adequate," "good" or "proper." Apparently what the proponents need is some adequate, good or proper term to characterize the kind of medical care that they refer to. The medical profession contends that it is inadequate, bad and improper. The one positive characteristic that it has is the fact that it is provided by the government following taxation of all of the workers of the country; a proper term would be nationalized, bureaucratic, governmental or socialized medical care.

Following the address by President Truman, a bill was introduced into the Senate bearing the names of Senators Murray, McGrath, Wagner, Chavez, Taylor and Pepper and into the House of Representatives by Congressman Dingell, which assurance from Senator Murray's office indicates is identical with Senate Bill 1320 except for the change in date and a new number, which is Senate Bill 5. As far as can be determined, there is no cry for this type of government medical service from the vast majority of the middle class people of the United States. Ours apparently is the only nation in the world still possessing a large middle class. Nor is there any insistent demand for this legislation from

rural groups. In the meantime, moreover, statements just made available from competent sources indicate that at the present time 52,000,000 Americans are insured against the costs of hospitalization, 31,000,000 against loss of income due to disability, 26,000,000 against surgical expense and 9,000,000 against medical expense. This is the most rapid rate of growth of any form of prepaid medical insurance on a voluntary basis that the world has ever known. It answers the President's request—but it is not compulsory!

ARMED FORCES MEDICAL ADVISORY COMMITTEE

As was announced to the House of Delegates at the St. Louis Session and as reported by our Washington correspondent, Secretary of Defense James Forrestal on December 13 appointed an Armed Forces Medical Advisory Committee which included nine civilian leaders of the medical profession, the Surgeons General of the Army and Navy and the Air Surgeon. At the same time Secretary Forrestal announced that Mr. Charles Proctor Cooper, president of the Board of Trustees of the Presbyterian Hospital in New York City, had accepted appointment to act as his deputy for all medical matters affecting the armed forces. He will also serve as chairman of the Armed Forces Medical Advisory Committee. The members of the committee are:

Dr. Raymond B. Allen, Seattle, President of the University of Washington

Dr. Edward D. Churchill, Boston, Professor of Surgery, Harvard Medical School, and formerly President of the American College of Surgeons

Dr. Michael DeBakey, Professor of Surgery, Baylor Medical College, Houston, Texas

Dr. Paul R. Hawley, Chicago, formerly Chief Medical Director, Veterans Administration

Dr. Richard D. Meiling, Assistant Professor of Obstetrics and Gynecology, School of Medicine, Ohio State Universersity, Columbus, Ohio

Dr. Maurice C. Pincoffs, Professor of Medicine, University of Maryland, Baltimore

Dr. Howard A. Rusk, Professor and Chairman of the Department of Rehabilitation and Physical Medicine, New York University College of Medicine, and Medical Editor, *New York Times*

Dr. Walter H. Scherer, Houston, Texas, Past President, American Dental Association

Dr. Paul Titus, Pittsburgh, Secretary-Treasurer and Director American Board of Obstetrics and Gynecology.

Maj. Gen. Raymond W. Bliss, M.C., U.S.A., Surgeon General of the Army

Rear Admiral Clifford A. Swanson, M.C., U.S.N., Surgeon General of the Navy and Chief of the Bureau of Medicine and Surgery

Maj. Gen. Malcolm C. Grow, M.C., U.S.A., The Air Surgeon

This committee will submit recommendations on general policies on the development of medical and allied services, on the elimination of unnecessary duplications or overlapping in the medical departments and the development of complete cooperation between the physicians of the armed forces and the civilian medical profession. By action of Mr. Forrestal, this committee will also give advice or assistance, on request, to the secretaries of the Army, the Navy and the Air Force, the chairman of the Munitions Board and the Research and Development Board. This committee succeeds the committee formerly known as the Hawley Board, which was established to study and recommend concerning improvements in the medical organizations of the national military establishment.

Thus comes fruition to a proposal of the Committee on National Emergency Medical Service of the American Medical Association, of which Dr. James B. Sargent is chairman. This committee has urged repeatedly the establishment of such a body as the one created by Secretary Forrestal as being vital to economical use of medical personnel and to meeting the needs of both the armed forces and the civilians of our country in times of emergency. No doubt the committee will, following its organization, establish an executive group which can assemble at least once each month in order to be aware of current problems and to act promptly.

AMERICAN PUBLIC HEALTH ASSOCIATION RESOLUTIONS

On page 159 of this issue appear two resolutions adopted at the annual meeting, held in Boston in November 1948, of the American Public Health Association.

One resolution deals with cooperation in the school health program and calls on the National Education Association and the American Medical Association to cooperate with the American Public Health Association and other groups in approving the principle of cooperative planning of health programs which involve children of school age. This resolution expresses the long declared and well implemented policy of the American Medical Association which began with the first meeting of the Association in 1847 and has been continuously a guiding principle in its policy. Since 1911, the American Medical Association and the National Education Association have cooperated through a Joint Committee on Health Problems in Education. Frequent symposiums on health of school children have been held at American Medical Association meetings. The Association has an active program of cooperation with educational agencies for better national health achieved through better health education and school health programs.

The second resolution likewise coincides with the views of physicians often expressed, that the present system of allotting state aid to schools and school districts in part on the basis of average daily attendance is pernicious, conducive to attendance by children who are harming themselves and menacing others and a temptation to the violation of sound sanitary principles for the school in increasing or maintaining subsidies.

The nation's leading public health organization does well to invite cooperation of the medical profession. Successful public health workers in official and voluntary agencies have long since learned that a cooperative medical profession is their strongest and best ally, but this idea has not seemed to permeate to certain leaders of the public health profession.

The two resolutions calling on the American Medical Association for cooperation represent but two in the many areas of agreement between the associations. Others include the movement for county health unit coverage, the fight for universal pasteurization, the better training of public health personnel with a consequent improvement in salaries and tenure, the extension of the merit system in public health official agencies, the advance of medical research and the perennial battle against quackery. The organizations representing the medical profession and the public health profession should face the public united in their areas of agreement, especially since there is a large overlapping in membership.

COMBINED STREPTOMYCIN-POTASSIUM IODIDE THERAPY

Iodides cause tubercle bacilli to appear in the sputum of patients with pulmonary tuberculosis. Jobling and Petersen [1] showed that iodine neutralizes the ferment-inhibiting properties of unsaturated fatty acids in caseous materials, thus releasing fermentation or autolysis. This causes a liberation of the bacilli and their appearance in the sputum. Jobling thought that the same autolytic process might serve a useful purpose by facilitating solution and absorption of caseous matter in other parts of the body and might thus expose masked tubercle bacilli to the influence of chemotherapeutic agents.

In the light of this significant suggestion and in view of the relatively poor results obtained in the treatment of fibrocaseous tuberculosis with streptomycin alone,[2] Woody and Avery [3] of the Department of Pathology, Vanderbilt University, tested the combined effect of potassium iodide and streptomycin against established tuberculosis in guinea pigs.

Forty-six young guinea pigs ranging in weight from 350 to 450 Gm. were inoculated in the groin with 0.3 mg. of virulent tubercle bacilli (H37RV). Treatment was delayed till the end of the fourth week. Fifteen of the guinea pigs were then set aside to serve as untreated controls. Fifteen were given daily intramuscular injections of 37,500 micrograms streptomycin per kilogram of body weight, given in fractional doses at six hour intervals.

The remaining 16 guinea pigs were given the same doses of streptomycin plus 80 mg. potassium iodide daily by stomach tube. Treatment of both groups was continued for five weeks. Three weeks later, or at the end of the twelfth week of the infection, 13 of the 15 untreated controls were dead and 5 of the 15 streptomycin-treated guinea pigs had died, while only 1 of the 16 treated with streptomycin and potassium iodide had succumbed. Two animals of each group were then killed for histologic study. By the end of fifteen weeks, deaths from tuberculosis were: controls, 13 of 13 animals; streptomycin group, 6 of 13 animals, and streptomycin–potassium iodide group, 2 of 14.

In earlier groups all animals were killed at the end of four weeks of treatment. On gross examination the untreated controls and a group given only potassium iodide showed heavy tuberculous infection of all viscera. In the streptomycin-treated group, but 5 of the 10 guinea pigs showed a mild spread of tuberculosis to the internal organs. In the group treated with streptomycin and potassium iodide the internal organs were free from macroscopically demonstrable tuberculosis.

The results of these tests were so encouraging that combined streptomycin–potassium iodide therapy is now being tried with tuberculous patients.

1. Jobling, J. W., and Petersen, W.: J. Exper. Med., **19**: 383, 1914.
2. Barnwell, J. B.: Am. Rev. Tuberc. **58**: 485, 1947.
3. Woody, E., Jr., and Avery, R. C.: Science, **108**: 501 (Nov. 5) 1948.

Current Comment

EXTREME SALT EXCRETION

One of the inherent problems of the mammalian organisms is the conservation of water. The kidney excretes as little water as possible but as much as necessary to eliminate in solution the cellular metabolites. When the need for heat loss is minimal the skin likewise behaves like an integument designed to retain water, and the fluid loss through the intestines is ordinarily depressed by the effective absorption in the large intestine. This tendency for water retention is exaggerated in the kangaroo rat and the pocket mouse, two desert mammals whose renal excretion of salts has recently been studied.[1] The experimental animals were given dry grain without water for six weeks, after which the same grain (rolled barley) containing about 10 per cent sodium chloride was fed. They gained weight on the dry grain alone but lost weight when salt was added to the diet. The survival time of the kangaroo rats maintained on the salt-containing ration was about a week but, even then, the water content of the body tissues was not depressed. As much as 0.908 normal chloride was excreted in the urine on the salt diet period, which is one and one-half times the normal maximum for the laboratory rat, almost three times that of man, dog or goat. These data provide evidence of extraordinary effectiveness of the kidney in eliminating salts with minimal loss of water under extreme conditions of stress. Whether or not the usual pattern of exchange in the tubules is maintained under the foregoing experimental conditions should be determined.

1. Schmidt-Nielson, K.; Schmidt-Nielson, B., and Schneiderman, H.: Am. J. Physiol. **154**: 163 (July) 1948.

ORGANIZATION SECTION

Official Notes

RESOLUTIONS BY THE AMERICAN PUBLIC HEALTH ASSOCIATION

The Governing Council of the American Public Health Association, at its Seventy-Sixth Annual Meeting, Boston, Nov. 10, 1948, adopted the following resolutions:

1. WHEREAS, The American Public Health Association is concerned with the health of the total community; and

WHEREAS, It has become increasingly clear that the school health program can contribute significantly to the over-all public health program; and

WHEREAS, Both education and health departments have great interest in the health of the school age child; and

WHEREAS, It is becoming increasingly apparent that where there is a high degree of mutual understanding and cooperation between departments of health and education, with the resultant pooling of the resources of both departments, good school health programs are being developed; therefore be it

Resolved, That the American Public Health Association join with the National Education Association and the American Medical Association and other groups in approving the principle of cooperative planning of health programs which involve children of school age.

2. WHEREAS, The allocation of the moneys to schools and school districts is based on a variety of formulas, among which is the classroom unit as computed by average daily attendance; and

WHEREAS, If funds are allotted on the basis of average daily attendance, school officials find it to their advantage strongly to promote daily attendance of all children at school; and

WHEREAS, The encouragement of children to attend school when they are ill has deleterious effects on the health of individual children and may be responsible for the spread of communicable diseases; therefore be it

Resolved, That the American Public Health Association join with the National Education Association, the American Medical Association and other groups in decrying this practice, and be it further

Resolved, That the National Council of State School Officers and the Association of State and Territorial Health Officers be urged to develop a plan of allotting tax moneys for educational purposes in a way that is not deleterious to the health of children.

Washington Letter

(From a Special Correspondent)

Jan. 10, 1949.

Labor Press Intensifies Health Insurance Campaign

The turn of the year witnessed intensification of organized labor's crusade for enactment of compulsory sickness insurance by the Eighty-First Congress, as manifested by articles, editorials and cartoons in union newspapers. The January 6 issue of *The Machinist*, which claims a circulation of 2,000,000, carried a "coupon" purporting to refute arguments against nationalization and urging union members to clip it out and "mail it or take it with you next time you go to see your family physician." An accompanying article charged that THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION refuses to publish anything favorable to health insurance.

Trainman News, official weekly of the Brotherhood of Railroad Trainmen and with an announced readership of 500,000, criticizes the special assessment voted by the American Medical Association House of Delegates and otherwise repeats stock criticism of the medical profession as supplied by the Committee for the Nation's Health. Incidentally, the "coupon" published in *The Machinist* invites physicians to write to the Committee for the Nation's Health literature supporting compulsory insurance. *CIO News*, in its final issue of 1948, reprinted an editorial from the *St. Louis Post-Dispatch* which expresses skepticism of the adequacy of voluntary prepayment plans.

Three New Senators Watched on Health Legislation

Among the new Senators who were sworn in when the new Congress convened January 3, three in particular are expected to take prominent roles in consideration of prospective legislation on national health and social welfare. They are Hubert H. Humphrey of Minnesota, Paul H. Douglas of Illinois and Dr. Lester C. Hunt of Wyoming. All are Democrats and all were supported, in their campaigns, by organized labor. Dr. Hunt is the Senate's only dentist member (there are no physicians in that body). Humphrey, who holds a pharmacy degree, placed great emphasis on public health when he was mayor of Minneapolis. Another new Democrat member, Joseph Allen Freear Jr., of Delaware, is a member of the American Hospital Association and president of the Kent General Hospital Board in his home town of Dover, Del.

Transfer of Veterans Hospitals Opposed by American Legion

The American Legion will fight transfer of the Veterans Administration medical department—including its 126 hospitals—to a "National Bureau of Health" as recommended by a Hoover Commission "task force." T. O. Kraabel, national rehabilitation director of the Legion, with offices in Washington, stated:

"The Legion holds that medical and hospital services of the best quality are essential not only to adequate identification and treatment of diseases but also as to exhaustive and correct descriptions for purposes of adjudicating veterans claims. This cannot be satisfactorily accomplished if medical and hospital services are separated from the administrative setup. . . . At present there are over 2,000,000 veterans of all wars suffering from service-incurred or aggravated disabilities. Total disability cases filed exeed 6,000,000. The American Legion supports the present VA hospital system and construction program as essential to meet future needs in respect to caring for these veterans. The Legion will vigorously oppose any action that will spell the disintegration or absorption of the Veterans Administration and the dilution or the devitalizing of the present program of the best possible medical and hospital care for veterans."

Dr. Magnuson May Resign if Not Given Free Hand

Dr. Paul B. Magnuson, chief medical director of the Veterans Administration, has made it clear that he will resign rather than compromise principles of professional standards in operation of Veterans Administration's large medical and hospitalization program. On his return to Washington from a ten day inspection trip, he confirmed reports that pressure is being exerted within the Veterans Administration to effect certain changes, particularly in reference to location of hospitals. "There's likely to be a hell of a fight in the next few weeks to decide who's running this department," he declared. "I think I am," he added. Meanwhile, Dr. Magnuson announced establishment of the Veterans Administration's eleventh radioisotope diagnostic and treatment unit at the Nashville (Tenn.) Veterans Hospital. The newest facility for application of atomic medicine will be conducted in close cooperation with Vanderbilt University School of Medicine and the Nashville Deans Committee.

Oak Ridge Institute Opened to Foreign Medical Researchers

Atomic Energy Commission has announced opening of radioisotope training facilities at Oak Ridge Institute of Nuclear Studies to a limited number of foreign scientists. First to take advantage of the plan are Dr. K. Aterman, of the department of anatomy, University of Birmingham (England), and P. S. Krishnan, of Madras, India, who has been a research associate in enzyme chemistry at Cornell University since he received his Ph.D. in biochemistry at that institution in 1947. Dr. Aterman came to this country for postgraduate study at Harvard Medical School on a Commonwealth Fund fellowship. The two scholars are members of the special class in technics of using radioisotopes in research that opened at Oak Ridge January 3. The course is one month in length.

Medical Legislation

STATE LEGISLATION

The legislature of the following states will meet in regular session during 1949.

State	Convenes	Time Limit
Alabama	May 3	36 days
Arizona	Jan. 10	60 days
Arkansas	Jan. 10	60 days
California	Jan. 3	None
Colorado	Jan. 5	None
Connecticut	Jan. 5	June 8
Delaware	Jan. 4	60 days
Florida	Apr. 5	60 days
Georgia	Jan. 10	70 days
Idaho	Jan. 3	60 days
Illinois	Jan. 5	None
Indiana	Jan. 6	61 days
Iowa	Jan. 10	None
Kansas	Jan. 11	60 days
Maine	Jan. 5	None
Maryland	Jan. 5	90 days
Massachusetts	Jan. 5	None
Michigan	Jan. 5	None
Minnesota	Jan. 4	90 days
Missouri	Jan. 5	None
Montana	Jan. 3	60 days
Nebraska	Jan. 4	None
Nevada	Jan. 17	60 days
New Hampshire	Jan. 5	None
New Jersey	Jan. 11	None
New Mexico	Jan. 11	60 days
New York	Jan. 5	None
North Carolina	Jan. 5	None
North Dakota	Jan. 4	60 days
Ohio	Jan. 3	None
Oklahoma	Jan. 4	75 days
Oregon	Jan. 10	50 days
Pennsylvania	Jan. 4	None
Rhode Island	Jan. 4	60 days
South Carolina	Jan. 11	40 days
South Dakota	Jan. 4	60 days
Tennessee	Jan. 3	75 days
Texas	Jan. 11	120 days
Utah	Jan. 10	60 days
Vermont	Jan. 5	None
Washington	Jan. 10	60 days
West Virginia	Jan. 12	60 days
Wisconsin	Jan. 12	None
Wyoming	Jan. 11	40 days

Massachusetts

Bills Introduced. H. 167 proposes the enactment of a **voluntary system** for the payment of hospital, surgical operation, sickness, bodily injury and maternity benefits to employees. H. 261 proposes to amend the existing law so as to declare nonprofit hospital service corporations, medical service corporations and nonprofit medical service plans to be **charitable corporations.** H. 319 proposes the enactment of a **cash sickness compensation** act. H. 365 proposes that any veteran of World War II who graduated from any medical school on or before June 1948, and who served an internship of not less than one year in an approved Massachusetts hospital and was a resident of Massachusetts shall be entitled to take the **examination for a license** to practice medicine in the state. H. 440, to amend the law relative to **physical examination of school children,** proposes that tests of sight and hearing of school children shall be made by qualified physicians. H. 494, to amend the workmen's compensation act, proposes that the record of the **history,** examination, diagnosis, prognosis or treatment **of an employee** shall not be furnished, nor shall any of the information contained therein be furnished or disclosed, to any employer or insurer or to his or its agents, servants or attorneys by any doctor, physician, surgeon, nurse or other person who shall examine, treat or attend such employee unless the employee consents thereto in writing prior to such furnishing or disclosure. H. 499 and H. 915 to amend the workmen's compensation act, propose that physicians called as expert witnesses in workmen's compensation hearings shall be allowed **a reasonable fee** by the department for testifying and that such fee shall include reasonable amounts for examinations, diagnostic studies and reports as well as appearances and testimony and shall in no case be less than $35. H. 507, to amend the workmen's compensation act, proposes that impartial **examinations prior to a hearing** shall be granted only at the request of the employee, or following a hearing, in the discretion of the department or any member thereof, after opportunity for the employee to object to the impartiality of the physician and to present evidence thereon. H. 589, H. 590 and H. 1003, to amend the law relating to **the sale of cosmetics,** propose that no person other than a licensed hairdresser shall sell or offer for sale at retail, or dispense or give away any cosmetic containing any harmful chemical. Harmful chemical is defined to include ammonium of hydroxide, thioglycolic acid and formaldehyde. H. 592 proposes that any duly registered physician licensed to practice medicine and surgery in the state shall be entitled to treat his or her patients in any public or semipublic hospital, that **no physician shall be discriminated against** or refused the right of practicing his profession in any public hospital because he is not a member of the Massachusetts Medical Society and that no physician shall be denied the use of such hospital because of his religion, nationality, race or sex. H. 733, H. 1138 and H. 1475 are comprehensive proposals for the licensing and regulating of persons and institutions desiring to engage in **animal experimentation** upon live animals. H. 851 proposes, among other things, that the trustees of the University of Massachusetts shall establish and maintain **two medical schools,** one to be located in the eastern part and the other in the western part of the state. H. 913, to amend the workmen's compensation act, proposes that any physician who has **testified either for an insurer or a claimant at least three times** in the preceding twelve months, shall not be eligible to be appointed by the compensation commissioner as an impartial physician. H. 1000 proposes that all persons engaged in the **preparation of food for human consumption** shall be required to undergo annually physical examinations by reputable practicing physicians in the employment of the state department of public health and shall be required as a condition to continuing work to be certified by such examining physicians to be free from any and all communicable diseases or diseases endangering the public health. H. 1010 proposes conditions under which graduates of the College of Physicians and Surgeons who received the degree of doctor of medicine prior to January 16, 1947 may be admitted to **examination for medical licensure** in the state. H. 1011 proposes that any person who is a resident of the commonwealth and who matriculated at any medical school in the commonwealth beginning with January 1943, may, under certain circumstances, be admitted to examination for **medical licensure in the state.** This proposal apparently is also for the benefit of graduates of the College of Physicians and Surgeons. H. 1446 proposes to require **owners or managers of restaurants** to display a certificate for each employee showing such employee to be free from communicable disease. H. 1530, to amend the law relative to the making of **tests of sight of school children,** proposes that the tests of sight shall be made by the teachers or registered optometrists, tests of hearing shall be made by the teachers, and examinations of feet shall be made by the school physicians. H. 1875 proposes that the sale of any drug, medicine, instrument or article whatever, one result of the use of which is or may be **the prevention of conception,** shall be presumed to have been made in violation of the law relative to criminal sales. S. 182 proposes that **a registered physician or surgeon or osteopath** shall not, without the consent of his patient, be examined in a civil or criminal action as to any information acquired in attending such patient which was necessary to enable him to prescribe or act for his patient. S. 266 proposes that whoever experiments or **operates** in any manner whatsoever **upon any living dog or cat** for any purpose other than the healing, curing or sterilizing of said dog or cat shall be punished by fine or imprisonment or both. S. 404 proposes the creation of a special commission to make a survey and study of the subject of **spastic paralysis.** S. 463 proposes the creation of a board of **examiners of chiropractic** and proposes to define chiropractic as "The science of restoring the proper neuro-muscular dynamic relationship along the spinal column by the correction of misalignment or subluxations of the vertebral column, such restoration and correction being made by hand adjustment only. The practice of chiropractic shall not include operative surgery, prescription or use of drugs or medicine, or the practice of obstetrics, except that in such practice the x-ray may be used solely for the purpose of examination."

North Dakota

Bills Introduced.—H. 41 proposes to authorize a court to appoint **expert witnesses** in any proceeding when the court deems such expert testimony desirable. S. 28 proposes to require every physician or other person **authorized by law to practice obstetrics** who attends a pregnant woman in North Dakota for conditions relating to pregnancy during the period of gestation or at delivery to take or cause to be taken a sample of blood of such woman at the time of the first professional visit or within ten days thereafter and to submit such sample to an approved laboratory for a standard serologic test for syphilis.

Coming Medical Meetings

Annual Congress on Industrial Health, Chicago, Drake Hotel, Jan. 18-19. Dr. Carl M. Peterson, 535 N. Dearborn St., Chicago 10, Secretary.
Annual Congress on Medical Education and Licensure, Chicago, Palmer House, Feb. 7-8. Dr. Donald G. Anderson, 535 N. Dearborn St., Chicago 10, Secretary.
National Conference on Rural Health, Chicago, Palmer House, Feb. 4-5 Dr. F. S. Crockett, 535 N. Dearborn St., Chicago 10, Chairman.

Alaska Territorial Medical Association, Juneau, March 3-5. Dr. William P. Blanton, Box 2569, Juneau, Secretary.
American Otorhinologic Society for the Advancement of Plastic and Reconstructive Surgery, New York, Hotel Waldorf-Astoria, March 4. Dr. Norman N. Smith, 291 Whitney Ave., New Haven 11, Conn., Secretary.
American Society for Surgery of the Hand, Chicago, Jan. 21-22. Dr. Joseph H. Boyes, 1401 S. Hope St., Los Angeles 15, Secretary.
Chicago Medical Society Annual Clinical Conference, Chicago, Palmer House, March 1-4. Dr. H. Kenneth Scatliff, 30 N. Michigan Ave., Chicago 2, Secretary.
International Post-Graduate Medical Assembly of Southwest Texas, San Antonio, Jan. 25-27. Dr. John J. Hinchey, P. O. Box 2445, San Antonio, Secretary.
New Orleans Graduate Medical Assembly, New Orleans, Municipal Auditorium, March 7-10. Dr. W. D. Beacham, 1430 Tulane Ave., New Orleans, Secretary.
Southeastern Allergy Association, Durham, N. C., Washington-Duke Hotel, Jan. 22-23. Dr. Katharine B. MacInnis, 1515 Bull St., Columbia, S. C., Secretary.
Southeastern Surgical Congress, Biloxi, Miss., Jan. 24-27. Dr. Benjamin T. Beasley, 45 Edgewood Ave. S.E., Atlanta 3, Ga., Secretary.
Western Section American Urological Association, Coronado, Calif., Hotel del Coronado, Jan. 17-19. Dr. Adolph A. Kutzmann, 1930 Wilshire Blvd., Los Angeles 5, Secretary.

GOVERNMENT SERVICES

ARMY

CAMPAIGN TO MEET URGENT MEDICAL MAN POWER REQUIREMENTS

The Surgeon General has announced a program to unite professional and civic support in every community behind a campaign to meet urgent man power requirements of the Army Medical Department through volunteers. The program involves setting up professional man power committees in communities and coordinating them with the existing military man power committees which are already helping the general recruiting campaign. The medical program is part of the drive to obtain physicians, dentists, nurses and other medical specialists to meet the needs for medical care of the services.

The Selective Service Act provides that "no person shall be inducted until adequate provision shall have been made for medical care." To date, the medical departments are meeting their obligation to provide adequate medical care to men coming into the service. But as the physicians and dentists now on duty finish their service and are separated, others must be obtained to replace them. This shortage of medical personnel, if it continues, is viewed as a serious threat to national defense. The new program is an effort to obtain enough volunteers to meet the need.

The program was worked out by the Army Medical Department in cooperation with the Army and Air Force Recruiting Service. In communities, outstanding physicians, surgeons, dentists and other leading medical specialists will be asked to serve on professional man power committees, which will be set up as subcommittees to the military man power committees which are already assisting the recruiting service. The cooperation of existing Army advisory committees also will be sought, particularly in the larger cities.

The plan for civilian aid to medical personnel procurement has been developed in consultation with the national societies representing the professional fields involved. It will seek the help of local units of professional organizations and enlist the cooperation of local chapters of veteran, civic and fraternal groups which have been helping the services in their recruiting campaigns. The Army Medical Department will maintain liaison with national professional societies and associations to coordinate procurement programs and national organization policy. National advertising and publicity will be used to focus public attention on achievements and opportunities in the medical departments of the services.

CIVILIAN RESIDENCY AND INTERN PROGRAMS

Applications for participation in the civilian residency and the civilian intern training programs by physicians will be accepted by the Army Medical Department beginning immediately. The two programs permit the further training of six hundred physicians under the sponsorship of the Army Medical Department.

The civilian residency training program permits the commissioning in the Regular Army of three hundred selected graduates of medical schools approved by the American Medical Association, who have satisfactorily completed an acceptable internship and have been accepted for a residency at an approved institution. Applicants accepted by a Board of Medical Department Officers will be given an opportunity to serve a residency of their own choice in any civilian hospital approved by the American Medical Association. Physicians selected to participate in the civilian residency program will be commissioned as first lieutenants or captains. In addition to the regular pay and allowances of their grades, the physicians will receive $100 per month which has been authorized for volunteer Army medical officers.

Selection of applicants for residencies will be completed by April 1. The civilian residency program for the fiscal year 1950 will get under way in July. This program has been established to provide specialty training to physicians interested in a career in Army medicine. All physicians accepting civilian residencies will be required to serve one year on active duty for each year of formal training received.

The civilian intern training program also permits the selection of three hundred candidates for participation. Training will be open to selected potential medical school graduates who plan to begin internship between Jan. 1 and July 1. The applicants must fulfil the requirements necessary for appointment as first lieutenants in the medical corps reserve and must have been accepted for internship training in a civilian hospital approved by the American Medical Association. Candidates selected to participate in the civilian intern training program will complete their internships as officers on active duty with full pay and allowances in the grade of first lieutenant. Physicians receiving training under this program will be required to serve one year on duty status as officers in the Regular Army Medical Corps for each year of formal training received.

Physicians interested in either the civilian residency program or the civilian intern training program can procure application forms from the Surgeon General, Attention: Chief, Procurement Branch, Personnel Division, Washington, D. C.

CONSULTANTS TO THE EUROPEAN COMMAND IN 1948

The Surgeon General's Office has been carrying out a program designed to bring to the Army Medical Department in the European Area the latest advances in the field of medicine and in so doing assigned during 1948 the following civilian consultants to aid in this work:

Name	Residence	Specialty
JANUARY		
Finney, George	Eccleston, Md.	Surgery
Martin, Walter B.	Attica, N. Y.	Medicine
Smith, Beverly, Col.	Washington, D. C.	Neuropsychiatry
FEBRUARY		
Bost, Frederic C.	San Francisco	Orthopedics
Marble, Alexander	Boston	Medicine
Rosenberg, Seymour J.	Washington, D. C.	Neuropsychiatry
MARCH		
Balser, Benjamin H.	New Rochelle, N. Y.	Neuropsychiatry
Gordon, Burgess	Philadelphia	Medicine
Hamilton, Frank E., Col.	Washington, D. C.	Surgery
Scheie, Harold	Philadelphia	Ophthalmology
APRIL		
Bruton, Ogden C., Lieut. Col.	Washington, D. C.	Pediatrics
Lady, William T.	Washington, D. C.	Obstetrics & Gynecology
Walsh, Maurice N.	Rochester, Minn.	Neuropsychiatry
Wells, Warner L.	Raleigh, N. C.	Surgery
MAY		
Cope, Oliver	Boston	Surgery
Curtis, Arthur C.	Ann Arbor, Mich.	Medicine
Hoagland, Tomas V.	Detroit	Neuropsychiatry
Soto-Hall, Ralph	San Francisco	Orthopedics
JUNE		
Duncan, Garfield G.	Philadelphia	Medicine
French, A. James	Ann Arbor, Mich.	Pathologist
Leonard Thomas M.	Washington, D. C.	Obstetrics & Gynecology
Margolin, Sydney G.	New York	Neuropsychiatry
Stiefel, Richard A.	Battle Creek, Mich.	Surgery
JULY		
Beecher, Henry K.	Boston	Anesthesia
Godard, C. H.	Pasadena, Calif.	Neuropsychiatry
Greear, James N.	Washington, D. C.	Ophthalmology
Leedham, Charles, Col.	Augusta, Ga.	Medicine
Porter, William B.	Richmond, Va.	Medicine
AUGUST		
Berlien, Ivan C.	Detroit	Neuropsychiatry
Hixson, Clayton	Washington, D. C.	Obstetrics
Shull, Harrison J.	Nashville, Tenn.	Medicine
Stark, Jessee D.	New York	Radiology
SEPTEMBER		
Ambler, John V.	Denver	Medicine
Barr, David	New York	Medicine
Daniels, Luman E.	Denver	Neuropsychiatry
Hart, Vernon L.	Minneapolis	Orthopedics
OCTOBER		
Haden, Russell L.	Crozet, Va.	Medicine
Stewart, George A.	Baltimore	Surgery
Talkington, Perry C.	Dallas, Texas	Neuropsychiatry
Thomas, Atha	Denver	Orthopedics
NOVEMBER		
Hench, Philip S.	Rochester, Minn.	Medicine
Kern, Richard A.	Philadelphia	Medicine
Tobin, William J.	Washington, D. C.	Orthopedics

NAVY

FIRST ACTIVE DUTY AS INTERNS

The following lieutenants (jg) in the Medical Corps Reserve have reported for their first active duty as interns under the Navy Medical Training Program at the institutions indicated:

Name	Residence	Destination
Allen, Alan W.	Santa Monica, Calif.	Santa Monica Hospital, Santa Monica, Calif.
Andrews, William J.	Oak Park, Ill.	Cook County Hospital, Chicago
Beasom, Ralph D.	Glendale, Calif.	California Lutheran Hospital, Los Angeles
Benedict, Paul F.	Vevay, Ind.	Indiana University Medical Center, Indianapolis
Bianco, Anthony J., Jr.	West Duluth, Minn.	St. Mary's Hospital, Duluth
Brady, Luther W. Jr.	Bethesda, Md.	Jefferson Hospital, Philadelphia
Brown, Crawford S.	Washington, D. C.	Germantown Hospital, Philadelphia
Burke, Donald R., Jr.	Seattle	King County Hospital, Seattle
Egge, Robert K.	Maplewood, N. J.	Newark City Hospital, Newark
Fyler, Donald C.	Silver Spring, Md.	Bellevue Hospital, New York
Gallagher, Raymond C.	San Jose, Calif.	Highland-Alameda County Hospital, Oakland, Calif.
Gill, Robert J.	Philadelphia	Pennsylvania Hospital, Philadelphia
Gilpin, Clifford R.	Evanston, Ill.	St. Luke's Hospital, Kansas City, Mo.
Harris, Jack K.	Jacksonville, Fla.	Roper Hospital, Kansas City, Mo.
Ireland, Roger G.	Denver	Metropolitan Hospital, Welfare Island, N. Y.
Marsten, Edgar L.	Silver Spring, Md.	Gallinger Municipal Hospital, Washington, D. C.
Nelson, William C.	Amery, Wis.	Minneapolis General Hospital, Minneapolis
Pearson, Linwood J.	Hellertown, Pa.	Germantown Hospital, Philadelphia
Rowe, Daniel S.	Shamokin, Pa.	Jefferson Hospital, Philadelphia
Schoetzau, Warren W.	North Bergen, N. J.	Metropolitan Hospital, Welfare Island, N. Y.
Schubert, Justin C.	North Manchester, Ind.	Santa Monica Hospital, Santa Monica, Calif.
Smith, Chandler S.	Robersonville, N. C.	Boston City Hospital, Boston
Smith, Grafton A.	Tulsa, Okla.	University of Minnesota Hospitals, Minneapolis
Specht, Harry O. J.	St. Louis	Indiana University Medical Center, Indianapolis
Whitehorn, Clark A.	Detroit	Detroit Receiving Hospital

SURVEY OF LEPERS IN PACIFIC ISLANDS

The Navy Medical Department is making a survey of the one hundred and twenty island communities in the Caroline, Marshall, Palau and Mariana chains of islands in the Pacific Ocean to find how many natives have leprosy and other infectious diseases. For this purpose, the U. S. S. *Whidbey* has been fitted out with examining and operating rooms, a laboratory and roentgenologic and dental departments. In the first two months of the survey, according to Walter Sullivan in the *New York Times*, 65 lepers have been brought to the center on Tinian Island, a vine-buried wilderness where during the war six great air strips were aimed at Tokyo, and where from two pits were loaded the atomic bombs that were dropped on Hiroshima and Nagasaki. Finding lepers in this 2,000,000 miles of ocean area is a big job. The leper colony, which has been in operation only about a month, is temporarily housed in a village built by Americans for the fishermen of Okinawa. The Naval medical officer who volunteered for service with these lepers is Lieutenant (jg) Jack W. Millar of Palo Alto, Calif.

DR. HOWARD T. KARSNER APPOINTED MEDICAL RESEARCH ADVISER

Dr. Howard T. Karsner, professor of pathology at Western Reserve University, Cleveland, has been appointed medical research adviser to the Surgeon General of the Navy and to the director of the research division of the Navy Bureau of Medicine and Surgery. He is the fifth Navy Department employee to be appointed to a Civil Service position with a salary of more than $10,000 a year under the provisions of Public Law 758 of the 80th Congress, approved June 24, 1948. The law authorized the Navy to fill thirteen positions in the professional and scientific services with a $10,000 to $15,000 salary range.

Dr. Karsner holds a degree of M.D. from the University of Pennsylvania and has studied pathology in Berlin and Vienna. During World War I he served as a captain in the medical reserve corps of the U. S. Army. He is the author of a work on "Human Pathology." As staff consultant, he will assist and advise the Surgeon General concerning evaluation, coordination and development of the Navy Medical Department's research program.

POSTGRADUATE INSTRUCTION

The following medical officers have been nominated for postgraduate instruction at the institutions indicated: Comdr. James A. Grindell, Washington, D. C., to Armed Forces Staff College, Naval Base, Norfolk, Va.; Lieut. Comdr. John T. M. Giannini, Shepherdsville, Ky., to a fellowship in plastic surgery at various Memphis hospitals on the plastic surgery service of Dr. William M. Adams of Memphis; Lieutenants (jg) Robert E. Fultz, Richmond, Va., to a residency in obstetrics and gynecology at the Naval Hospital, San Diego, Calif., and James H. Harris, Rochelle, Ill., to a residency in obstetrics and gynecology at the Naval Hospital, San Diego, Calif.

PERSONALS

Lieut. (jg) Thomas J. Coleman of Providence, R. I., has transferred from an active reserve status to the Regular Navy Medical Corps.

Lieut. Comdr. Edward R. Hubbard of Taunton, Mass., and Lieut. (jg) Donald O. Ward of Jamaica Plain, Mass., have been nominated respectively for active duty in the Naval Reserve at the Naval Hospital, Portsmouth, Va., and to a residency in pediatrics in Children's Hospital, Boston.

AIR FORCE

OVERSEAS POSITIONS FOR PHYSICIANS

The Air Force is offering overseas opportunities to registered physicians in a civilian capacity. Especially desirable are applicants who have completed a tour of at least two years' active duty with the military service. They will serve both military and civilian personnel. The base pay for these positions is $6,235.20 per annum with a cost of living allowance for each theater. Applicants are required to remain overseas in most theaters for two years. Travel to and from the theater is arranged and provided by the Air Force. Application should be made direct to the Field Extension Office, Overseas Affairs Division, Directorate of Civilian Personnel, Wright-Patterson Air Force Base, Dayton 1, Ohio. Information regarding employment and living conditions will be furnished on request.

PSYCHOLOGIC TESTS FOR AIRMEN

A group of civilian specialists in psychiatry and psychology, and surgeons of the larger air commands convened at the Air Surgeon's office in the Pentagon, Washington, D. C., December 18-20 to select those psychologic tests which will aid in the selection of pilots. The civilian consultants in the group were: Drs. Russel V. Lee, Palo Alto Clinic, Palo Alto, Calif.; W. Paul Holbrook, Tucson, Ariz.; Laurence F. Shaffer, Columbia University, New York; Walter C. Shipley, Wheaton College, Norton, Mass.; Robert G. Bernreuter, Pennsylvania State College, State College, Pa.; Molly Harrower, New York; Donald W. Hastings, University of Minnesota, Minneapolis; John M. Murray, New York, and Frank Freemont-Smith, New York.

PHYSICIANS SEPARATED FROM SERVICE

ARMY MEDICAL CORPS OFFICERS RECOMMENDED FOR/OR RELIEVED FROM ACTIVE DUTY

Alabama

Igou, Rufus A. Jr.....Fort Payne

Arkansas

Baldridge, Graves D.....Los Angeles
Bell, William K.....Benton
Fairley, Julian R.....Osceola
Jefferies, William L.....Little Rock
McMillan, Orin P.....El Dorado
Thompson, Robert J.....Paris

California

Bennett, James H.....San Francisco
Gable, Tom P.....Vista
Griffin, Loyal M. Jr.....Oakland
Hadley, Henry L.....Los Angeles
Hair, Charles M.....Los Angeles
Henry, William N.....Beverly Hills
Jarrett, Joseph C.....San Francisco
Plumb, Hugh J. Jr.....Santa Ana
Smith, Eden M.....Los Angeles
Sumner, Robert H.....San Diego

Colorado

Zaugg, Frederick B....Colorado Springs

Connecticut

Hagedorn, Maxwell E....East Hartford
Lena, Hugh F. Jr.....New London
Mathews, Hugh J. Jr.....Stanford

Florida

Massey, George H.....Quincy
Rogers, James S. Jr.....Gainesville

Georgia

Dickens, Benjamin F.....St. Marys
Jones, Rudolph W. Jr.....Macon
Mickel, Carey A. Jr.....Atlanta
Middlebrooks, Tracy W.....Macon

Illinois

Cooper, Marvin E.....Chicago
Forrest, Russell A.....Quincy
Gattas, Fred A.....Chicago
Goldberg, Arthur M.....Chicago
Golum, Abraham.....Chicago
Lownik, Felix J.....Chicago
Narsete, Eugene M.....Chicago
Reynolds, William E.....Chicago
Stone, Richard W.....Chicago
Swanstrom, Harry C. Jr.....Chicago
Vycital, Richard O.....McHenry
Zannini, John J.....Waukegan

Indiana

Henry, Alvin L.....Seymour
Jackson, John F.....Fort Wayne
Kenyon, Omar A. Jr.....Fort Wayne
Kerrigan, William F.....Connersville
Schroeder, Henry R. Jr.....Washington
Sheedy, John A.....Indianapolis

Iowa

Mighell, Scott J.....Lake City

Kansas

Lovett, Paul A.....Pittsburgh
Wherry, Harry L.....Mission

Kentucky

Hayes, Oscar J.....Berea

Louisiana

Gaethe, George.....New Orleans

Maine

Hall, Charles A.....Castine

Maryland

Elder, John D. Jr.....Catonsville
Milan, Albert R.....Baltimore

Massachusetts

Brooks, John R.....Cambridge
Bullard, John C.....Dartmouth
Cavan, David J.....Haverhill
Goldthwait, David A.....Medfield
Goodale, Walter T.....Weston
Haley, Warren D.....Medford
Kunan, Richard E.....Holbrook
Michaud, Raymond A.....Beverly
O'Brien, James J.....Malden
Paull, David P.....Essex
Steele, Kenneth C.....Springfield

Michigan

Donaldson, David D.....Dearborn
Hendricks, Charles H.....Kalkaska
Horrigan, Thomas F. Jr.....Detroit
Horvath, James J.....Detroit
Osborn, Samuel.....Ann Arbor
Tappan, William M.....Holland

Minnesota

Ellering, Jerome B.....St. Cloud
Larson, Oliver E.....Elgin
Towne, Russel E.....St. Cloud
Ylvisaker, John R.....Mankato

Mississippi

James, Dewitt B.....Midnight
Simmons, Schubert B.....Bay Springs

Missouri

Koppenbrink, Walter E. Jr..Higginsville
Neumann, Roland F. Jr.....St. Louis
Simon, Sanford.....Kansas City

Montana

Hanley, William J.....Billings
Pennepacker, Joseph S. Jr.....Billings
Zuelke, Paul E.....Alberton

Nebraska

Beethe, Raymond C.....Lincoln

New Hampshire

Baroody, Philip C.....Manchester
Bowen, John R.....Somersworth
Connolly, Edward P.....Dover
Wilson, William W.....Portsmouth

New Jersey

Elwell, Robert W.....Camden
Ianacone, Sam J.....Paterson
Mintz, Julius.....North Plainfield
Pratt, Loring W.....Westfield
Spoor, Herbert J.....Jackson Heights

New Mexico

Knowlton, Norman P. Jr....Los Alamos
Smith, Daniel E.....Carlsbad

New York

Achilles, William E.....New York
Benitez, Roberto E.....Brooklyn
Blancato, Louis S.....New York
Cheney, Joseph C.....Brooklyn
Cronin, David L.....New York
Hoffman, Julius.....Bronx
LaBarbera, Thomas.....Brooklyn
Miles, Thomas V.....Brooklyn
Mitchell, James A.....New York
Parks, Robert E.....Hempstead
Reid, Charles D.....Syracuse

North Carolina

Jennings, Royal G. Jr.....Thomasville
Little, Filas J. Jr.....Concord
Phillips, Marvin W.....Asheboro

Ohio

Beman, Floyd M.....Columbus
Bennett, Hugh N.....Poland

Ohio—Continued

Berens, James J.....Cincinnati
Franley, Harold C.....Cleveland
Garrison, George H.....Columbus
Metcalf, DeForest W.....Ashtabula
Niesen, Frank J.....Cincinnati
Nolan, James R.....Norwood
Orfirer, Alexander P.....Cleveland
Shirkey, Harry C.....Cincinnati
Snider, Edwin F.....Bellefontaine
Sprang, Harry E.....Crestline
Staley, Charles J.....Columbus
Werb, Theodore J.....Cleveland
Wilson, Joseph N.....No. College Hill
Wool, Max L.....Dayton

Oklahoma

Brown, Arthur M. Jr.....Muskogee
Hall, Kenneth E.....Shidler

Oregon

Larson, Wilbur E.....Redmond
McNiece, Kenneth J.....Portland
Martin, Daniel M.....Portland
Pennington, Merle.....Sherwood

Pennsylvania

Adams, Andrew B....Huntington Valley
Allen, Wayne H.....Athens
Brown, Joseph S.....Lewistown
Fullerton, Harry W. Jr.....Philadelphia
Janora, Casper C.....Nanticoke
McKnight, Robert S.....New Castle
Ravdin, Robert G.....Philadelphia
Reiner, Charles B.....Philadelphia
Roberts, Roy R.....Deep Valley
Schumacher, Forrest V.....Bellevue
Shore, Seymour M.....Philadelphia
Svedberg, Arthur H.....McKeesport
Weiss, Albert J.....Bethlehem
Wenhold, Roy A.....Trumbauersville

Texas

Butler, Alan W. Jr.....Marta
Erhard, Peter S.....Galveston
Hawkins, Elmer J.....Sweetwater
McGrede, Henry C.....Sulphur Springs
Mullinaux, Ernest B.....San Antonio
Powell, Eugene V. Jr.....Waco

Vermont

Beaudette, Robert P.....Burlington

Virginia

Bond, Vernard F. Jr.....S. Arlington
Buchanan, Franklin T.....Bristol
Robinson, Charles.....Richmond
Tucker, Grattan H. Jr.....Chase City
Wade, Frank A.....Roanoke

West Virginia

Weisman, Samuel.....Parsons

Wisconsin

Akwa, Carl M.....Milwaukee
Cohen, David A.....Milwaukee
Everest, Paul D.....Merrill
Hodgson, Paul E.....Wauwatosa
Irvin, John M.....Wauwatosa
Meyer, Bertram J.....Milwaukee
Puestow, Robert C.....Oshkosh
Sievers, David J.....Merrill
Silber, Earl N.....Milwaukee
Smirl, Warren G.....Waukesha
Tiholiz, Ivan C.....Milwaukee
Welbourne, Raymond P.....West Allis

Canada

Belter, Lester F.....Edmonton

Puerto Rico

Dalmau, Gumersindo B.....Rio Piedras

Medical News

(Physicians will confer a favor by sending for this department items of news of general interest; such as relate to society activities, new hospitals, education and public health. Programs should be received at least two weeks before the date of meeting.)

CALIFORNIA

Society News.—Dr. Carroll J. Bellis, Long Beach, addressed the Southeast Branch of the Los Angeles County Medical Association on the "Management of Acute Bowel Obstructions" on January 4.——The Los Angeles Society of Allergy elected Dr. Hyman Miller, Los Angeles, president, and Dr. M. Coleman Harris, Beverly Hills, secretary-treasurer to take office at its January meeting.

Spastic Disease Center.—A $1,000,000 center for the relief of infantile paralysis, multiple sclerosis, arthritis and other neuromuscular diseases was opened in November in the former Santa Monica Ambassador Hotel. It is one of four units of the Kabat-Kaiser Institute for the rehabilitation of sufferers from spastic diseases. Other units are situated in Washington, D. C., Oakland and Vallejo. The center's equipment includes swimming pools and a gymnasium.

Personals.—Dr. Kenneth W. Haworth, formerly health officer of the Humboldt County Health Department, has become the first full time health officer of Napa County.——Dr. Lowell S. Goin, chief radiologist, Queen of Angels Hospital, Los Angeles, has been appointed a member of the National Advisory Cancer Council for three years to assist in formulating plans and policies of the National Cancer Institute at Bethesda, Md., and to review applications for aid in cancer control and research. Dr. Goin is a past president of the California Medical Association, the American College of Radiology and the Radiological Society of North America.

CONNECTICUT

In Memory of Dr. Cushing.—A portrait bust of Dr. Harvey Cushing, the gift of Miss Malvina Hoffman, sculptor, was unveiled in the Historical Library of Yale University School of Medicine, New Haven, January 15. The casting of the bronze was made possible by the Associates of the Yale Medical Library.

Hospital Trustees Conference.—Representatives of 38 Connecticut institutions will meet at the Yale University School of Medicine, New Haven, January 25 at the first Connecticut Hospital Trustees Conference sponsored by the Connecticut Hospital Association and Yale University. The general theme for the conference will be local and regional planning for hospitals. Increased hospital costs, hospitalization plans for welfare cases and hospital programs for postgraduate medical education will be under discussion. Graham L. Davis, Battle Creek, Mich., past president of the American Hospital Association, will speak at the luncheon on postgraduate medical education. Among other speakers will be Ira V. Hiscock, Sc.D., New Haven; C. Rufus Rorem, LL.D., Philadelphia; William H. Horton, Windsor; William H. Putnam, Hartford; Gilbert L. King, Bridgeport, and Drs. Albert W. Snoke and William R. Willard of New Haven.

DISTRICT OF COLUMBIA

Medical Chapter of Reserve Officers Association.—The Reserve Officers Association has established a medical chapter in the District of Columbia Department. Brigadier General Edward A. Evans, national executive director of the association, and Lieutenant Colonel Thomas H. King, president of the District of Columbia Department, officiated at the opening of the chapter at a luncheon at the Army-Navy Club. The charter members of the chapter are: Don. S. Knowlton, Commodore, U. S. N. R.; S. Ross Taggart, Colonel, Surgeon, D. C. National Guard; James B. Mason, Colonel, M. C. Reserve; Raymond Holden, Captain, U. S. N. R.; Luther Gray, Lieutenant Colonel, M. C. Reserve; F. Daniel Suttenfield, Lieutenant Colonel, M. C. Reserve; C. Lee Miller, Major, M. C. Reserve; Francis Threadgill, Major, M. C. Reserve; William Billingsley, Jr., Lieutenant, U. S. N. R., and Matthew Stroup, Captain, M. C. Reserve. The interim officers are Lieutenant Colonel Suttenfield, president, and Lieutenant William K. Billingsley Jr., secretary-treasurer. At a meeting December 9 it was decided that all reserve officers in the medical branches of all services will be eligible for membership.

ILLINOIS

Joint Meeting of Doctors and Lawyers.—The Knox County Medical Society and the Knox County Bar Association held their first joint meeting in forty years December 16 in Galesburg. Mr. J. William Holloway Jr., director of the Bureau of Legal Medicine and Legislation, the American Medical Association, Chicago, spoke on "Legal Medicine and the Professions." A lengthy discussion period followed.

Personals.—Dr. Myron J. Tremaine, Evanston, has been presented the degree of Commander with Swords in the Order of Orange-Nassau by the Netherlands Government. Dr. Tremaine, who was in charge of medical activities of the 15th Army during the late war, was accorded the honor "in recognition of excellent service on behalf of the Netherlands government and great collaboration with the Netherlands military forces both during and after the liberation."

Chicago

Rheumatic Fever Research Institute.—The Chicago Heart Association has made a grant of $25,000 to the Rheumatic Fever Research Institute of Northwestern University Medical School from its fund established as a memorial to Morris E. Fishbein Jr., who died as a result of rheumatic fever. Two new laboratories of the institute were recently completed with the aid of another grant of $25,000 from the James Foundation of New York.

Decrease in Deaths from Tuberculosis.—According to the Tuberculosis Institute of Chicago and Cook County, the 1948 toll of tuberculosis deaths in Chicago will be about 9 per cent fewer than in 1947. During the first ten months of this year deaths totaled 1,081 as compared with 1,186 for the same period in 1947. However, the number of reported cases shows an increase. In the same period cases reported increased from 3,763 in 1947 to 3,921. During 1948 the institute cooperated with the Municipal Tuberculosis Sanatorium and gave more than 250,000 free chest roentgen examinations in Chicago and 50,000 in the county outside the city.

Report on Poliomyelitis in Chicago.—According to the Chicago Health Department, a report on poliomyelitis during the last ten years indicates that nearly 98 per cent of poliomyelitis in Chicago is a mild, widespread disease of young children that leaves no residual paralysis. The report shows that the disease strikes most strongly children aged 1½ to 3 years. Multiple cases of the disease in a family are the rule rather than the exception when there are children from 1½ to 8½ years old in the home. Chicago's data for the period show no significant correlation between climate and the incidence of poliomyelitis.

Northwestern Honors Dr. Schmidt.—Dr. Louis E. Schmidt, a member of the Northwestern University Medical School faculty for more than fifty years, was tendered a reception by the university on his eightieth birthday January 8. More than five hundred friends and associates attended. Dr. Schmidt was graduated from Northwestern University Medical School in 1895, and became one of the first doctors in the nation to practice urology as a medical specialty. From 1931 to 1942 he was active in Chicago's campaign for the eradication of syphilis. The present Lewis E. Schmidt Clinic at Northwestern is a consolidation of two previous clinics with which he was associated. Dr. Schmidt became emeritus professor of urology and retired as chairman of the department in May 1947.

INDIANA

Personal.—Dr. Marvin H. Sandorf, a practicing physician of Indianapolis, was among those passing the Indiana Bar Examination in October 1948. Dr. Sandorf is a graduate of Loyola Medical School and a former resident physician at Cook County Hospital, Chicago. He received his LL.B. degree from Tennessee Law School.

Dr. Ramsey to Edit State Journal.—Dr. Frank B. Ramsey, Indianapolis surgeon, became editor of the *Journal of the Indiana State Medical Association*, succeeding Dr. E. M. Shanklin of Hammond, who became editor emeritus after sixteen years of service as editor. Dr. Alexander W. Cavins of Terre Haute was named associate editor, the position held previously by Dr. Ramsey.

Public Relations Field Secretary.—Larry Richardson, former newscaster over Radio Station WIBC, Indianapolis, has been appointed field secretary of the Indiana State Medical Association. He is a graduate of Indiana University and has been a teacher of radio at Butler University at Indianapolis. Mr. Richardson will assist in developing a public relations program for the association, will speak before lay groups and assist the committee on postgraduate education.

KANSAS

Public Health Appointments.—The Kansas State Board of Health has appointed Dr. Harold G. Nelson, a graduate of the University of Kansas School of Medicine, director of the Division of Epidemiology. He has served as instructor in the department of bacteriology and immunology at the University of Kansas, and from 1946 to 1948 was in charge of the clinical laboratory and associated with the Naval Medical Research Unit Number 4 (Rheumatic Fever) in Dublin, Ga. Dr. Clarence H. Kinnaman, former director, Topeka, will continue in a consultant capacity as epidemiologist and will be directly in charge of special programs. Dr. Andre Baude, a member of the staff of the State Sanatorium for Tuberculosis at Norton since 1942, is acting director of the Division of Tuberculosis Control. He is a graduate of the University of Paris, Faculty of Medicine, 1927.

LOUISIANA

Graduate Medical Assembly.—The annual meeting of the New Orleans Graduate Medical Assembly will be held March 7-10 at the Municipal Auditorium. Fourteen divisions of medicine have selected the following guest speakers: Drs. C. Guy Lane, Boston; Albert F. R. Andresen, Brooklyn; George H. Gardner, Chicago; Russell L. Cecil, New York; Edward H. Rynearson, Rochester, Minn.; Charles A. Poindexter, New York; O. Spurgeon English, Philadelphia; Benjamin P. Watson, New York; Everett L. Goar, Houston, Texas; James S. Speed, Memphis, Tenn.; C. Stewart Nash, Rochester, N. Y.; Colonel James E. Ash, Washington, D. C.; A. Ashley Weech, Cincinnati; Frederic E. Templeton, Seattle; Reginald Smithwick, Boston; John de J. Pemberton, Rochester, Minn.; J. A. Campbell Colston, Baltimore, and Frank Lahey, Boston. Following the meeting a postclinical tour to Mexico is planned for March 12-27. Headquarters in México, D. F., will be the Hotel del Prado. A medical program is being arranged by doctors in México for March 14-15. For information write to the New Orleans Graduate Medical Assembly, Room 105, 1430 Tulane Avenue, New Orleans 12.

MASSACHUSETTS

Personal.—At a November convocation assemblage at Davidson College an alumni citation of merit was presented to Brigadier General James S. Simmons, U.S.A. retired, dean of Harvard School of Public Health, for outstanding contributions in the fields of preventive medicine and public health. General Simmons received his Bachelor of Science degree at Davidson in 1911 and was awarded the honorary degree of Doctor of Science in 1937.

Massachusetts Physicians Committee.—On November 22 a group of physicians formed a Massachusetts Physicians Committee to promote free enterprise and preserve the system of private practice in medicine in this country. The committee invites the help of physicians of the commonwealth in studying problems of general concern, in enlightening the public and in lending all aid possible to the government and the people in establishing the nation's health on a secure basis.

MICHICAN

Society News.—The Michigan Pathological Society on December 11 installed Dr. Donald H. Kaump, Detroit, as president and elected Drs. Richard E. Olsen, Pontiac, president-elect, and Walter A. Stryker, Wyndotte, secretary-treasurer.

Adult Psychiatric Clinic.—The Adult Psychiatric Clinic at Harper Hospital, Detroit, has been initiated as a therapeutic unit by the combined efforts of the State Department of Mental Health and community leaders. The clinic will not attempt therapy of certain of the more serious psychiatric conditions. From agencies making a referral it is desirable that the clinic have a social and medical history, and a report of physical examination where this is feasible. A conference with the referring agency is also preferred. A minimum age level for patients is eighteen years. The clinic will operate on a fee basis.

Beaumont Memorial on Mackinac Island.—The Council of the Michigan State Medical Society at a recent meeting approved a plan to raise funds by popular subscription to establish the Beaumont Medical Shrine on Mackinac Island. About $30,000 is needed to restore the building where Dr. William Beaumont as a young Army post surgeon began direct observations of the process of digestion through a wound into a patient's stomach, which led to the publication of his book, "Experiments and Observations on the Gastric Juice and the Physiology of Digestion." The restoration of this landmark has been recommended by the Michigan State Medical Society Beaumont Memorial Committee and the Michigan Mackinac Island Commission.

NEW JERSEY

Recommendations of Commission on Alcoholism.—The New Jersey Commission on Alcoholism and Promotion of Temperance, having completed a three year study, has issued a report to the state legislature making recommendations for legislation authorizing the establishment of facilities under the department of health for the treatment of alcoholic addicts and for the prevention of alcoholism. The four point program recommended is designed to guide the New Jersey State Department of Health in developing a positive approach to the problem: (1) provision and operation of facilities necessary for the treatment and rehabilitation of alcoholic addicts; (2) provision of informational and educational services to the public relative to the prevention and treatment of alcoholism; (3) initiation and sponsorship of research programs to increase scientific knowledge in the field, and (4) coordination of its efforts with other agencies whose services can contribute to the objectives of the department.

NEW YORK

Postgraduate Lecture.—The Medical Society of the State of New York, with the cooperation of the New York State Department of Health, has arranged a postgraduate lecture for the Onondaga County Medical Society at the University Club, Syracuse, February 1, 8:30 p. m., when Dr. Marcy L. Sussman, New York, will speak on "Recent Radiologic Contributions to the Study of Heart Disease."

Rochester Committee on Arthritis and Rheumatism.—A Rochester Committee to represent the Arthritis and Rheumatism Foundation organized a few months ago has been formed. Rochester is one of thirty-eight centers the foundation has designated to represent it locally and to assist in its fund-raising effort. Headquarters has been established at 1441 East Avenue, in care of the Medical Society of the County of Monroe. The Governing Committee is headed by Dr. Jacob D. Goldstein, Rochester.

Cancer Teaching Day.—A Cancer-Teaching Day will be held at the Hermann M. Biggs Memorial Hospital, Ithaca, January 19 beginning at 4 p. m., under the auspices of the Medical Society of the County of Tompkins and the Tompkins County Department of Health, the Medical Society of the State of New York and the New York State Department of Health. The program is as follows: Dr. Norman Treves, New York, "Cancer of the Breast"; Dr. John S. LaDue, New York, "Operative Risk and Pre- and Post-Operative Care of Patients with Cancer"; Dr. Clyde L. Randall, Buffalo, "Significance and Management of Abnormal Vaginal Bleeding," and Dr. Albert F. R. Andresen, New York, "Gastrointestinal Cancer." A buffet supper will follow at 6:30 p. m., for which the required advance reservations may be obtained from N. Stanley Lincoln, M.D., Hermann M. Biggs Memorial Hospital, Ithaca, N. Y.

New York City

John Osborn Polak Memorial.—Cornerstone-laying ceremonies were held December 17 for the John Osborn Polak Memorial, an addition to the Long Island College Hospital. It contains a suite of six operating rooms and other facilities. Dr. Polak was professor of obstetrics and gynecology at the Long Island College of Medicine and at the hospital. He died June 29, 1931.

Annual President's Dinner.—The Medical Society of the County of Kings and the Academy of Medicine of Brooklyn will hold its fifth annual president's dinner January 26 at Hotel St. George, Brooklyn, Harry D. Gideonse, LL.D., president of Brooklyn College, will speak on "Free Science and the Future of an Open Society." Presentation of the President's Medal and Scroll will be made to Dr. A. W. Martin Marino.

Director of Neurological Surgery Appointed.—Dr. J. Lawrence Pool has been named director of Neurological Surgery Service at the Neurological Institute of the Presbyterian Hospital and professor of neurological surgery and executive officer of the department, effective January 1. He has been associated with the Columbia-Presbyterian Medical Center since 1934. Dr. Pool was graduated from the Columbia University College of Physicians and Surgeons in 1932. He was chief of neurosurgery for four months in World War II at the Army's Thomas M. England Hospital in Atlantic City.

Award the Benson Fellowship.—A fellowship for medical research commemorating the late Philip A. Benson has been awarded to Dr. Irving Rappaport, an instructor at the Long Island College of Medicine. Dr. Rappaport has had training and experience as a malariologist and parasitologist in tropical medicine in Australia, New Guinea, the Philippines and the U. S. Army Medical School. The Philip A.

Benson Memorial Fund was formed by contributions from Mr. Benson's friends and by savings banks of New York State, the association of which Mr. Benson was president. Mr. Benson was a trustee of the college for twelve years. It is anticipated that the fund will eventually be increased to provide for a full time professorship at the college.

Coordinate Physical Medicine Program.—Columbia University on January 1 embarked on a new program of coordination and integration of the physical medicine program which has been developed under impetus from a grant of $400,000 from the Baruch Committee on Physical Medicine. Dr. Robert C. Darling, associate professor of medicine, director of research in physical medicine and chairman of the Physical Fitness Sub-Committee of the Baruch Committee, will be coordinator of physical medicine and rehabilitation. The new program will deal with the instructional and research activities in physical medicine at Columbia-Presbyterian Medical Center; the Institute for the Crippled and Disabled, which is affiliated with Columbia; the instructional program in physical and occupational therapy at the Medical Center and Teachers College, and training projects for both technical and medical personnel at the Medical Center and eight other hospitals in New York City. Dr. Darling is a graduate of the Harvard Medical School, Boston, 1934.

OHIO

Seminar for General Practitioners.—The Society of General Physicians, Cincinnati, is offering a seminar on "Pathologic Physiology of Disease," for general practitioners, in collaboration with the University of Cincinnati College of Medicine. The meetings will be held in Room 110 of the college on Tuesdays and Thursdays beginning January 18 and extending through February 10. Sixteen lecturers under the direction of Dr. Marion A. Blankenhorn, Cincinnati, will participate in the seminar.

Attack on Unethical Practices.—The Cleveland Academy of Medicine and the Cleveland Better Business Bureau are making a joint attack on unethical and fraudulent practices on the part of physicians, other classes of practitioners and firms which supply them with materials and appliances. The joint effort is the result of a study made by the Academy of Medicine and subsequent conferences with officials of the Better Business Bureau. Action was taken by the academy to the end of fostering public confidence in the medical profession. Six conditions are to be checked:

(1) fraudulent medical advertising; (2) rebating to physicians from the sale of eyeglasses; (3) rebating from the sale of diagnostic and therapeutic mechanical apparatus; (4) the control of unlicensed and limited licensed practitioners who overstep the bounds of legal limitations; (5) the practice by certain druggists of giving physicians rebates from remedies sold to patients, and (6) the activities of some physicians who falsely promise impossible cures and fraudulently treat incurable diseases.

It was felt that the first three items listed should receive the initial concentrated effort. The academy has granted the bureau $2,500 with which to start the campaign.

OREGON

Memorial to Dr. Mount.—A gift of $5,000 to the library of the University of Oregon Medical School, Portland, has been made in memory of Dr. Frank R. Mount, former assistant clinical professor of medicine at the university, by Mrs. John E. Weeks. This makes a total of $6,825 given to the library in his memory by various persons. Dr. Mount died Oct. 11, 1947.

Research Laboratories Completed.—Completion of research laboratories at the University of Oregon Medical School, Portland, will make possible immediate acceleration of the virus research program, according to Dr. Arthur Frisch, director. The animal quarters, costing $125,000 and paid for with state funds, consist of thirty rooms. Financing of the virus section improvements was made possible through the gift of the National Foundation for Infantile Paralysis Chapters in Josephine and Multnomah counties.

SOUTH DAKOTA

Meeting of Council and District Officers.—The first annual meeting of the Council and District Officers of the South Dakota State Medical Association was held at the Marvin Hughitt Hotel, Huron, January 9. Subjects discussed included "Duties of the District Officers" and "Relation of the District to the State Association," "Conduct of the District Society," "Public Relations" and "Prepayment of Medical Care."

WEST VIRGINIA

Organize General Practice Group.—A West Virginia Chapter of the American Academy of General Practice has been organized at Charleston. The seventeen charter members present elected the following officers for 1949: President, Dr. Tyler R. Boling, Grantsville; vice president, Dr. Ralph Frazier, Fayetteville; secretary, Dr. Carl B. Hall, Charleston.

Personals.—Dr. Joseph U. Rohr of Charleston has been named by Governor Clarence W. Meadows as superintendent of the Andrew S. Rowan Memorial Home at Sweet Springs, effective November 1. He succeeds Dr. Henry H. Hancock, superintendent since 1946, who resigned to resume private practice. Dr. Luke W. Frame of Morgantown has been named director of the division of communicable disease of the state health department, succeeding Dr. Robert E. Gibson, Charleston, resigned.

Society News.—At a recent meeting of the Central Medical Society in Buckhannon, Dr. William W. Huffman of Gassaway, was elected president and Dr. Theresa O. Snaith of Weston, secretary-treasurer. The meeting was attended by over fifty doctors, members of the auxiliary and guests.——The West Virginia Academy of Ophthalmology and Otolaryngology at the annual fall meeting elected Dr. Sobisca S. Hall, of Clarksburg, president; Dr. Melvin W. McGehee, Huntington, secretary, and Dr. Frederick C. Reel, Charleston, treasurer.

PUERTO RICO

Puerto Rico Medical Association.—At the annual meeting of the Puerto Rico Medical Association Dec. 7, 1948 in San Juan Dr. Manuel A. Astor was reelected chairman; Dr. Jenaro Barreras, vice-chairman; Dr. J. Bassora Defillo, secretary; Dr. Jaime F. Pou-Valldejuli, treasurer, and Dr. Carlos Munoz McCormick, delegate to the American Medical Association. Dr. Manuel G. Rodriguez was reelected chairman of the chamber of delegates.

GENERAL

Cerebral Palsy Meeting.—The American Academy for Cerebral Palsy will hold its Second Annual Meeting at the Palmer House in Chicago January 27-28. A scientific meeting will be held on Friday afternoon and Saturday morning.

National Society for Medical Research.—The annual board of directors meeting of the National Society for Medical Research will be held at 2 p. m. February 6 in the Palmer House, Chicago, in connection with the annual Conference on Medical Education and Licensure.

Urologists Meeting.—The Western Section of the American Urological Association will meet January 17-19 at the Hotel del Coronado, Coronado, Calif. The Robert V. Day Lecture on "Present Status of Prostatic Carcinoma" will be delivered by Dr. Charles B. Huggins, Chicago. Homer W. Smith, New York, has been invited to speak on "Modern Theory of Urine Formation." The Joseph F. McCarthy Award paper will be given Wednesday morning by Dr. John W. Dorsey, Long Beach, Calif., on "Solitary Hydrocalyx."

Teachers of Clinical Radiology to Meet.—The sixteenth annual Conference of Teachers of Clinical Radiology will be held at the Drake Hotel, Chicago, February 5 under the sponsorship of the American College of Radiology. There will be round table discussions at which teachers of clinical radiology can discuss problems of mutual interest. The first Conference on Radiology in Rural Health will be held from 2:30 to 6 p.m. February 5 after the teachers' conference. The meeting will take up possible methods of bringing specialized radiologic services to rural areas.

Increased Number of Student Nurses.—More than 43,000 students entered schools of nursing in the United States during 1948, according to the American Hospital Association. The figure represents an increase of nearly 5,000 students over the 1947 total, 12,000 more than in 1946 and the largest number of student nurses ever recruited during a peacetime year. Enrolment in schools in 38 states increased from 1 to 73 per cent; in 8 states decreased admission was reported. The increase is believed to be the result of two national recruitment drives during the last two years sponsored by the American Hospital Association, American Medical Association, American College of Surgeons, American Red Cross, U. S. Public Health Service, the National Committee on Careers in Nursing and the Advertising Council.

Six Scientists Receive Awards.—Six scientists were presented Amory Awards totaling $21,000 for research in disorders of the human reproductive organs at a meeting of the American Academy of Arts and Sciences in Boston December 8. The awards were given to Dr. W. J. Kolff of Holland for develop-

ing the artificial kidney; Dr. George N. Papanicolaou, New York, for the early diagnosis of cancer by the detection of malignant cells in secretions; Professor Guy F. Marrian, Edinburgh, Scotland, for research on the chemistry of sex hormones; Selman A. Waksman, Ph.D., New Brunswick, N. J., for his discovery of streptomycin, and Dr. Alexander B. Gutman, New York, and Dr. Charles B. Huggins, Chicago, for their work in the diagnosis and treatment of cancer of the prostate. The prizes were established by Francis Amory's bequest to the American Academy of Arts and Sciences in 1912 for stimulating invention and research to provide for the treatment and cure of "the diseases of the human sexual generative organs," especially for the relief of "retention of urine, cystitis, prostatitis and those distressing disorders so common to old men." Prizes are awarded every seven years by the academy in accordance with the bequest.

Funds Allocated for Research on Hypertension.—The Board of Trustees of the American Foundation for High Blood Pressure have announced the allocation of funds to the following investigators for research in hypertension and arteriosclerosis:

Thomas C. Barnes, Sc.D., Hahnemann Medical College Philadelphia	$ 1,000
Stanley E. Bradley, Columbia University, New York	5,000
Norman E. Freeman, Franklin Hospital, San Francisco	3,500
Meyer Friedman, Mt. Zion Hospital, San Francisco	5,300
Sydney M. Friedman, McGill University, Faculty of Medicine, Montreal, Canada	3,000
David M. Greenberg, Ph.D., University of California, Berkeley, Calif.	8,640
Keith S. Grimson, Duke University Hospital, Durham, N. C.	5,000
Albert I. Lansing, Ph.D., Washington University School of Medicine, St. Louis	7,182
Arnold Lazarow and John W. Patterson, Ph.D., Western Reserve University, Cleveland	5,000
Jessie Marmorston, University of Southern California, Los Angeles	5,000
Campbell Moses, University of Pittsburgh School of Medicine, Pittsburgh	1,900
Frederick J. Moore and Norman C. Flau, University of Southern California, Los Angeles	5,000
Jean Oliver, Long Island College of Medicine, New York	2,800
Ernest W. Page, University of California, San Francisco	3,000
Lelland J. Rather, Stanford University School of Medicine, San Francisco	5,000
George E. Wakerlin, University of Illinois, Chicago	5,000
A. Earl Walker, Johns Hopkins University, Baltimore	4,000
Harold Wiggers, Ph.D., Albany Medical College, Albany, N. Y.	2,700
Eugene B. Ferris, University of Cincinnati, Cincinnati	Amount to be Determined.

CANADA

Society News.—The Montreal Medico-Chirurgical Society, meeting February 4, will hear Drs. John F. McIntosh, Frederick G. Kalz, Max Ratner, and Emerson C. Smith, all of Montreal, discuss "The Relation of Urinary Urease to Crystalluria and Recurrent Stone Formation, with Report of Cases." Dr. Priscilla White, Boston, will speak on "Diabetes and Pregnancy." At the February 18 meeting a symposium on "Cervicobrachial Pain" will be held with speakers Drs. Francis L. McNaughton, Simeon J. Martin, James G. Shannon and Herbert F. Moseley, all of Montreal.

LATIN AMERICA

Inter-American Congress of Radiology.—The Third Inter-American Congress of Radiology will be held in Santiago de Chile November 11-17 under the sponsorship of the Chilean government. Official subjects of the congress will be radiological exploration of the cardiovascular system with opaque material; diagnosis and simple radiologic exploration of the skull, and radiation treatment of cancer of the tongue and of the cervix. Because of the great demand for South American transportation during the winter months, those in the United States who wish to attend should write Dr. James T. Case, 55 East Washington Street, Chicago 2, coordinator between the executive committee of the congress and radiologists of the United States.

Inter-American Congress on Brucellosis.—The Second Inter-American Congress on Brucellosis, under the auspices of the Pan-American Sanitary Bureau, was held at Mendoza and Buenos Aires, Argentina, November 17-26. The United States was represented officially by Dr. James H. Steele, Chief, Veterinary Public Health Division, U. S. Public Health Service, Atlanta, Ga., who was named chairman of the delegation, and Dr. C. K. Mingle of the Bureau of Animal Industry. Other American participants invited by the Congress were Dr. Harold Harris, New York; Horace M. Powell, Sc. D., Indianapolis; Drs. Leo Lowbeer, Tulsa, Okla., and Joseph F. Griggs, Claremont, Calif.

The meeting at Mendoza was devoted to research and epidemiology papers by representatives of Argentina, Chile, Colombia, Peru, Venezuela, Mexico and the United States. Dr. Steele presented a paper on "The Epidemiology of Brucellosis in the United States." Dr. Mingle responded at the opening session for the visiting delegates to the speech of welcome by the Minister of Health, Dr. Luis Carrillo. Dr. Carlos Crivellari, director of public health, Argentine Republic, was chosen president of the congress. Dr. Miguel Bustamente, secretary, Pan-American Sanitary Bureau, assisted Dr. M. Ruiz Castaneda, secretary.

The Mendoza area, in the foothills of the Andes, has an extensive goat industry, and most of the brucellosis reported is of the melitensis type. The delegates visited the surrounding country to see the goat industry and observe the conditions under which the shepherds became infected. The close proximity to human habitation of the corrals and the necessary handling of the animals in milking cause human exposure to animal infection. In the urban areas many human cases are traced to unpasteurized cheese of goat origin. There are few cattle or swine in this region, and no Brucella abortus or Brucella suis cases among human beings are reported.

The delegates had an opportunity to see the pampas after the Mendoza session closed when they were en route to Buenos Aires. The Province of Buenos Aires, which surrounds the city, has a dense animal population of cattle, swine, horses and sheep, although the major portion of the sheep industry is further south in Patagonia.

The meetings were resumed in Buenos Aires on November 22 and closed on November 26. The Buenos Aires meeting was mainly concerned with the discussion of the diagnosis and therapy of human brucellosis. Dr. Harris spoke on "Diagnosis and Treatment of Brucellosis," Dr. Griggs on "Bacterial Allergy," Dr. Powell on "Therapy" and Dr. Lowbeer on "The Pathology of Swine Brucellosis." Dr. M. Ruiz Castaneda of Mexico presented an excellent paper on "The Treatment of Brucellosis with Aureomycin." The congress created two permanent committees to study the standardization of human serologic diagnostic methods and animal disease eradication. The success of both groups will depend on having a standard antigen with which to compare other antigens. The congress concluded that the antigen of the Bureau of Animal Industry, U. S. Department of Agriculture, would be the best to use, as it is available in large quantities and could be readily distributed. Similar studies will also be carried on for animal serology. The congress further agreed that brucellosis cannot be controlled in man until it is controlled in animals.

The congress voted to accept the invitation of the United States to hold the third Inter-American Congress on Brucellosis in Washington, D. C., in October 1950. Dr. W. William Spink, Minneapolis, has been named chairman of the third congress and Dr. M. Ruiz Castaneda is to continue as secretary.

Marriages

J. WOODHULL OVERTON, New York, to Mrs. Joan Blair Havemeyer of Las Vegas, Nev., in Boulder City, Nev., October 25.

ROBERT J. DUNCAN, La Salle, Ill., to Miss Jane Ruth Weymouth of Avalon, Wis., in Delavan, Wis., Nov. 6, 1948.

ROBERT L. ALEXANDER, Cleveland, to Miss Sansa Rita O'Connor in Shaker Heights, Ohio, October 23.

GEORGE RALPH HATCHER, Valhalla, N. Y., to Miss Mary Louise Heinze of Fostoria, Ohio, October 24.

JACK HANSON POWELL JR., to Miss Margaret Valentine Peniston, both of Newman, Ga., in October.

JAMES BLAIR MARTIN to Miss Jane Pierson, both of Charleston, S. C., in Macon, November 6.

ADELBERT AMES III, Hanover, N. H., to Miss Judith Quentin Derby in Oyster Bay, L. I., October 16.

CONDON THOMAS HAGAN, Wichita, Kan., to Miss Mary Ann Claffy of Columbia, S. C., November 8.

PATRICK JAMES FINUCANE to Miss Jeane Marie Kinsman, both of Eau Claire, Wis., November 6.

JOSEPH F. ZIGARELLI, Paterson, N. J., to Miss Eileen Joan Reilly of Englewood, November 6.

JOHN R. MARKETTE to Miss Dollie Mae Swalm, both of Brookhaven, Miss., October 16.

THEODORE B. VAN ITALLIE, New York, to Miss Barbara Cox of Bangor, Me., September 25.

HENRY C. SCHOLER to Miss Dorothy Mae Eyler, both of Monmouth, Ill., October 16.

MELVIN RAYMOND SALK to Miss Zelda Weiner, both of Chicago, November 28.

Deaths

Charles Malden Oman ✠ Medical Director, Rear Admiral, U. S. Navy, retired, Beacon, N. Y.; born in Columbia County, Pa., Oct. 23, 1878; University of Pennsylvania Department of Medicine, Philadelphia, 1901; commissioned assistant surgeon in the U. S. Navy on Feb. 2, 1902; served in the Philippine, Cuban and Mexican campaigns; during World War I commanded the hospital ship Comfort and later the Navy Base Hospital at Brest, France; commanded the Naval Dispensary, Washington, D. C., from 1928 until 1931; served as medical officer of the third Naval District; in 1941 became the first medical officer in command of the Navy Medical Center, Bethesda, Md.; in 1942 was transferred to the retired list but continued to serve as commandant of the Naval Convalescent Hospital at Harriman, N. Y., until Nov. 6, 1945; member of the board of governors of the American College of Surgeons, member of the New York Society of Tropical Medicine, and for many years a member of the National Board of Medical Examiners; awarded the Navy Cross for distinguished service as officer in command of the hospital at Brest, and the Italian Red Cross medal for work in the Massina earthquake in 1909; author of "Minor Surgery" and "Doctors Aweigh"; died November 1, aged 70, of coronary occlusion.

George Corwin Beach Jr., ✠ Major General, M. C., U. S. Army, and Assistant Surgeon General of the Army in command of the Army Medical Center, Washington, D. C.; born in Topeka, Kan., Oct. 28, 1888; University Medical College of Kansas City, Mo., 1911; in 1917 commissioned a first lieutenant in the regular army, and in the same year graduated from the Army Medical School; assigned to the Panama Canal Zone as post surgeon; later chief of medical services at the Sternberg General Hospital in Manila; formerly served at the Letterman General Hospital in San Francisco and the Mayo Clinic in Rochester, Minn.; at one time commanding officer of the Station Hospital, Fort Sam Houston, Texas; in 1930 awarded the Distinguished Service Medal for exceptionally meritorious service; specialist certified by the American Board of Internal Medicine; fellow of the American College of Physicians; member of the Association of Military Surgeons of the United States; died in the Walter Reed General Hospital, November 18, aged 60.

John Beekman Potts, Omaha; born in Morrisonville, Ill., July 14, 1876; University of Nebraska College of Medicine, Omaha, 1907; joined the faculty of his alma mater in 1912 as clinical assistant in otolaryngology and rhinology; became instructor in 1914, assistant professor in 1925, associate professor in 1931 and since 1937 professor of otorhinolaryngology emeritus; specialist certified by the American Board of Otolaryngology; member of the American Medical Association, Association for the Study of Internal Secretions, American Academy of Ophthalmology and Otolaryngology, American Laryngological Association, American Laryngological, Rhinological and Otological Society and the American Otological Society; served overseas during World War I; affiliated with the Bishop Clarkson Memorial Hospital, Nebraska Methodist Episcopal Hospital and University of Nebraska Hospital; consultant for the Veterans Bureau; died October 29, aged 72, of acute pulmonary edema.

Warren Douglas Horner ✠ San Francisco; born in Klamath Falls, Ore., in 1890; University of California Medical School, San Francisco, 1916; associate clinical professor of ophthalmology at his alma mater; vice chairman of the Section on Ophthalmology of the American Medical Association in 1947; specialist certified by the American Board of Ophthalmology; member of the American Academy of Ophthalmology and Otolaryngology, American Ophthalmological Society, Association for Research in Ophthalmology, Western Ophthalmological Society and Pacific Coast Oto-Ophthalmological Society; served during World Wars I and II; president of the board of directors of the Lux Technical Institute; affiliated with St. Mary's Hospital, Children's Hospital and the U. S. Marine Hospital; died October 22, aged 58, of carcinoma of the prostate.

John Thomson Crebbin, New Orleans; born in Lawrence, Kan., Dec. 8, 1872; the Hahnemann Medical College and Hospital, Chicago, 1900; member of the American Medical Association; specialist certified by the American Board of Otolaryngology; at one time on the faculty of the New Orleans Polyclinic; for many years president of the state board of nursing examiners, which he helped to organize; formerly practiced in Shreveport, La., where he was on the staffs of the Pines Sanatorium, North Louisiana Sanitarium and Shreveport City Hospital; served as superintendent of the Eye, Ear, Nose and Throat Hospital; died in Mercy Hospital October 20, aged 75, of cerebral arteriosclerosis, hypertension and lymphoma.

George F. Adair, Lynbrook, N. Y.; Georgetown University School of Medicine, Washington, D. C., 1900; died recently, of arteriosclerosis.

Henry Rihl Alburger ✠ Indianapolis; University of Pennsylvania Department of Medicine, Philadelphia, 1902; member of the American Society of Clinical Pathologists; at one time on the faculty of Indiana University and of the University of Pennsylvania; served on the staffs of the Methodist and St. Vincent's hospitals; formerly on the staff of the City Hospital; affiliated with St. Francis Hospital, where he died October 7, aged 74.

Romus Arnold, Carthage, Mo.; the Hahnemann Medical College and Hospital, Chicago, 1888; served during World War I; died October 11, aged 83, of arteriosclerosis.

Curtis Leroy Baker ✠ Kirkpatrick, Ohio; Medical College of Indiana, Indianapolis, 1894; died October 15, aged 78.

Canada Asbery Beeler, Cherryvale, Kan.; Fort Worth School of Medicine, Medical Department of Fort Worth University, 1903; member of the American Medical Association; died October 1, aged 75, of coronary arteriosclerosis.

Charles Gideon Bell, Canton, Miss.; Vanderbilt University School of Medicine, Nashville, Tenn., 1903; member of the American Medical Association; served during World War I; for many years chairman of the board of directors of the Canton Exchange Bank; local surgeon for the Illinois Central Railroad; died in St. Dominic's Hospital, Jackson, October 27, aged 65, of heart disease.

Joseph Louis Belliotti ✠ Providence, R. I.; University of Buffalo School of Medicine, 1916; fellow of the American College of Surgeons; served during World Wars I and II; member of the board of trustees of state colleges; affiliated with the Notre Dame Hospital, Central Falls, Westerly (R. I.) Hospital, State Infirmary, Howard, Roger Williams Hospital, Charles V. Chapin Hospital and St. Joseph's Hospital, where he died October 27, aged 54, of coronary occlusion.

James Harrington Biram ✠ Hartford, Conn.; Cornell University Medical College, New York, 1910; fellow of the American College of Surgeons; a medical officer serving in France during World War I; served on the staff of Hartford Hospital and as medical director of the Colt Manufacturing Company; died in Granby, October 30, aged 67, of heart disease.

Irving DeLoss Blanchard, Boston; Yale University School of Medicine, New Haven, 1897; died in West Newton, September 30, aged 74, of arteriosclerotic heart disease.

Henry Montague Bonner, Morehead City, N. C.; Medical College of Virginia, Richmond, 1897; on the staff of the Morehead City Hospital; died in Laurinburg October 19, aged 73, of myocarditis.

Charles D. Boyd, Kaukauna, Wis.; Rush Medical College, Chicago, 1891; member of the American Medical Association; past president of the Outagamie County Medical Society; served as trustee of the Wisconsin Anti-Tuberculosis Association; formerly health officer and mayor; a founder and, until 1946, superintendent and medical director of the Riverview Sanatorium, a position he held for thirty-two years; on the staff of St. Elizabeth's Hospital in Appleton; died October 1, aged 79, of nephritis.

George W. Brickbauer, New Holstein, Wis.; Homeopathic Medical College of Missouri, St. Louis, 1895; formerly president of the State Bank in Plymouth and village president of Elkhart Lake; at one time director and president of the chamber of commerce of Sheboygan; died October 24, aged 81, of cerebral hemorrhage.

Terrell Bridges, Montevallo, Ala.; Birmingham Medical College, 1915; member of the American Medical Association; died October 27, aged 61, of coronary thrombosis.

John T. Burnite, Harrisburg, Pa.; Hahnemann Medical College and Hospital of Philadelphia, 1904; member of the American Medical Association; affiliated with Polyclinic Hospital, where he died October 20, aged 68, of coronary disease.

Mary Allen Callaway-Joplin, Boise, Idaho; Fort Worth School of Medicine, Medical Department of Fort Worth University, 1902; member of the American Medical Association; served for two terms as a member of the state house of representatives; died in a local hospital October 15, aged 69, of carcinoma of the ovary.

Henry Jones Carswell, Waycross, Ga.; University of Georgia Medical Department, Augusta, 1908; member of the American Medical Association; served overseas during World War I; died October 3, aged 63.

Horace Fordyce Coburn, Wilton, N. H.; Harvard Medical School, Boston, 1903; died October 13, aged 76.

Walter Alton Coole ✙ Houston, Texas; Baylor University College of Medicine, Dallas, 1930; served as secretary of the Harris County Medical Society; formerly an officer in the U. S. Navy; served during World War I; died suddenly, October 16, aged 48.

Henry Knox Craig, Washington, D. C.; Columbian University Medical Department, Washington, 1895; formerly librarian and curator of the museum at George Washington University School of Medicine; died in the Gallinger Hospital October 22, aged 76.

Leman Dow Cruice ✙ Major, U. S. Army, retired, Alhambra, Calif.; Jefferson Medical College of Philadelphia, 1913; entered the medical corps of the U. S. Army in 1917; retired May 22, 1920 for disability in line of duty; served during World War I; died in Pasadena, recently, aged 60, of coronary occlusion.

James Floyd Darby, St. Ignace, Mich.; Michigan College of Medicine and Surgery, Detroit, 1895; past president of the Chippewa-Mackinac Counties Medical Society; died September 25, aged 77.

Benjamin Shadrach Davis, Plymouth, Pa.; Jefferson Medical College of Philadelphia, 1917; served as secretary of the board of health of Plymouth, as police and fire surgeon and for two terms as coroner's physician; affiliated with the Wyoming Valley Homeopathic Hospital, Wilkes-Barre, where he died October 10, aged 55, of cerebral hemorrhage.

Leon Curtis Davis ✙ Greenville, Miss.; Tulane University of Louisiana School of Medicine, New Orleans, 1910; affiliated with King's Daughters' Hospital; died in Sanatorium October 27, aged 62, of pulmonary tuberculosis.

Nettie Austin Murphy Dorris ✙ Paris, Ill.; University of Louisville (Ky.) Medical Department, 1905; formerly health superintendent of district number 13; served as superintendent of the Illinois mobile health unit with headquarters in Springfield; died in the Cottage Hospital in Galesburg, October 10, aged 71, of nephritis.

Robert Edward Dyer, Chicago; University of Illinois College of Medicine, Chicago, 1919; member of the American Medical Association; formerly on the faculty of the Loyola University School of Medicine; on the staffs of Mercy, St. Joseph and Ravenswood hospitals; died October 29, aged 54, of coronary thrombosis and hypertension.

Frank Birch Easton, Craftsbury Common, Vt.; Harvard Medical School, Boston, 1904; member of the American Medical Association; affiliated with the Orleans County Memorial Hospital, Newport, where he died recently, aged 70, of uremia and chronic nephritis.

Wiley Sims Embrey, Texarkana, Texas; Vanderbilt University School of Medicine, Nashville, Tenn., 1896; served during World War I; died October 2, aged 78, of heart disease.

Archibald Parker Evans, Kings Park, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1905; served during World War I; for many years affiliated with Kings Park State Hospital; died October 21, aged 68, of chronic myocarditis.

George H. Eversole, Caledonia, Mo.; Missouri Medical College, St. Louis, 1886; died October 4, aged 85.

Frank B. Farrington, Kirksville, Mo.; St. Louis University School of Medicine, 1905; died in Dearborn, Mich.; October 24, aged 74.

J. B. Freeland, Dyersburg, Tenn. (licensed in Tennessee in 1910); died recently.

Daniel Sylvester Gardner, Massillon, Ohio; Western Reserve University Medical Department, Cleveland, 1887; chairman of the Selective Service Board during World War I; on the staff of Massillon City Hospital, where he died October 26, aged 81, of carcinoma of the prostate.

Earnest Reuel Goodloe ✙ Paducah, Ky.; University of Nashville (Tenn.) Medical Department, 1903; past president of the Southwestern Kentucky Medical Association; past president and secretary of the McCracken County Medical Society; formerly postmaster of Little Cypress; on the staff of the Illinois Central and Riverside hospitals; died October 23, aged 69, of carcinoma of the pancreas.

John Pugh Hall ✙ Pittsburgh; College of Physicians and Surgeons, Baltimore, 1892; served during World War I; died October 21, aged 81.

Julius Hammer, New York; Columbia University College of Physicians and Surgeons, New York, 1902; member of the American Medical Association; died October 17, aged 74.

Frank Cleveland Hart, Seattle; University of Oregon Medical School, Portland, 1915; served during World War I; died in Walla Walla September 29, aged 62, of heart block.

Edward Leo Herlihy ✙ Bangor, Me.; Medical School of Maine, Portland, 1920; fellow of the American College of Surgeons; affiliated with the Eastern Maine General Hospital; died October 31, aged 53.

Gilbert Austin Hoppes, Anderson, Ind.; Indiana University School of Medicine, Indianapolis, 1912; died in the Ball Memorial Hospital, Muncie, October 22, aged 58, of hypertensive cardiovascular renal disease.

William Forrest Howard ✙ Pocatello, Idaho; University Medical College of Kansas City, Mo., 1899; an Associate Fellow of the American Medical Association; fellow of the American College of Surgeons; served during World War I; formerly secretary of the Pocatello Medical Society; past president of the Idaho State Medical Association; served as a member of the state board of medical examiners and as city physician; affiliated with the Pocatello General and St. Anthony's hospitals; died October 19, aged 80.

William Bell White Howe, Hendersonville, N. C.; Medical College of the State of South Carolina, Charleston, 1906; member of the board of health; honorary member of the staff of Patton Memorial Hospital; died October 4, aged 67, of coronary disease.

Hans Joergensen ✙ Greenport, N. Y.; Georgetown University School of Medicine, Washington, D. C., 1922; died in the Eastern Long Island Hospital, September 20, aged 60, of cerebral hemorrhage.

Llewelyn L. Jones ✙ Glendale, Calif.; University of Nashville (Tenn.) Medical Department, 1899; on the staffs of the Physicians and Surgeons Hospital and Glendale Sanitarium and Hospital, where he died October 15, aged 77, of injuries received when struck by an automobile.

Thomas Samuel Jones, Waukee, Iowa; Drake University College of Medicine, Des Moines, 1913; served as mayor and president of the school board; died in Iowa Methodist Hospital, Des Moines, October 26, aged 73, of pulmonary embolism.

George Lygurgus Karras, Gary, Ind.; Dalhousie University Faculty of Medicine, Winnipeg, Manitoba, Canada, 1926; died September 30, aged 50. .

Edmond G. Klamke ✙ Alexandria, La.; Københavns Universitet Laegevidenskabelige Fakultet, Denmark, 1901; member of the American Public Health Association; director of the Rapides Parish health unit; served during World War I; killed in an automobile accident near Morrow October 13, aged 73.

Joseph Matthew Klein, North Brunswick, N. J.; University of Vermont College of Medicine, Burlington, 1909; died October 20, aged 70, of coronary thrombosis.

James Andrew La Gasa ✙ Tacoma, Wash.; Jefferson Medical College of Philadelphia, 1908; fellow of the American College of Surgeons; member of the Washington State Medical Association; at one time on the staffs of Tacoma General and St. Joseph's hospitals; died in Tucson, Ariz., October 7, aged 65, of coronary occlusion.

Otto Laist ✙ San Francisco; College of Physicians and Surgeons of San Francisco, 1900; an Affiliate Fellow of the American Medical Association; on the staff of St. Joseph's Hospital; died October 13, aged 77, of congestive heart failure.

William Carle Landis, Claypool, Ind.; Bennett Medical College, Chicago, 1907; served during World War I; died in the Elkhart (Ind.) General Hospital October 19, aged 67, of vesicointestinal fistula.

Claude B. Leggett, Abilene, Texas; Southwestern University Medical College, Dallas, 1905; member of the American Medical Association; affiliated with St. Ann Hospital and Hendrick Memorial Hospital; died October 25, aged 68, of cerebral hemorrhage.

William Levy ✙ Suffield, Conn.; Yale University School of Medicine, New Haven, 1911; for many years local medical examiner and health officer; on the staff of Springfield Hospital; died September 15, aged 58, of carcinoma.

Llewellyn Roy Lewis, Los Angeles; Northwestern University Medical School, Chicago, 1916; member of the American Medical Association; served as a member of the consulting editorial staff of the supplement of the *International Abstract of Surgery (Surgery, Gynecology and Obstetrics)*; died October 24, aged 58.

Robert Stephen Lilla ✙ Captain, U. S. Army, retired, Nucla, Colo.; Jefferson Medical College of Philadelphia, 1925; entered the U. S. Army on July 1, 1926; retired for disability in line of duty Sept. 30, 1933; died November 1, aged 49, of tuberculosis.

Hugh Harrison Linn, Bowringpet, Deccan, India; Northwestern University Medical School, Chicago, 1909; for many years a medical missionary; died recently, aged 70.

Rossitter J. Lloyd ✠ Olyphant, Pa.; Baltimore Medical College, 1897; member of the Radiological Society of North America, Inc.; died October 28, aged 70.

Joseph Allan Locke, Tacoma, Wash.; McGill University Faculty of Medicine, Montreal, Canada, 1910; served with the Canadian Army during World War I; died recently, aged 62.

Frank Peter McCarthy ✠ Erie, Pa.; Jefferson Medical College of Philadelphia, 1901; past president of the Erie County Medical Society; fellow of the American College of Surgeons; served during World War I; for many years surgeon for the Pennsylvania Railroad; affiliated with Hamot Hospital and St. Vincent's Hospital, where he died October 28, aged 69, of coronary occlusion.

James Gibbons McGillicuddy, Chelsea, Mass.; Albany (N. Y.) Medical College, 1909; served during World War I; for many years associated with the U. S. Public Health Service; died in the U. S. Marine Hospital, Boston, October 13, aged 64, of arteriosclerosis and Parkinson's disease.

Donald Munro McIntosh, Old Fort, N. C.; Medical College of Virginia, Richmond, 1904; member of the American Medical Association; past president of the McDowell County Medical Society; formerly councilor and president of the Tenth District of the Medical Society of the State of North Carolina; served during World War I; on the staff of Marion (N. C.) General Hospital; died October 29, aged 66, of cerebral hemorrhage.

John Francis McKie, Hot Springs, S. D.; Rush Medical College, Chicago, 1910; served during World War II; died in the Veterans Administration Hospital September 2, aged 65, of coronary occlusion and hypertension.

Ray Randle Osborne ✠ Rockford, Ill.; Chicago College of Medicine and Surgery, 1912; affiliated with St. Anthony Hospital; died October 24, aged 66, of cerebral embolism.

Hewell Coleman Samuel, Sanatorium, Texas; Tulane University of Louisiana School of Medicine, New Orleans, 1941; member of the American Trudeau Society; assistant superintendent of the State Tuberculosis Sanatorium; died October 21, aged 35.

Albert Spottke, New York; Universität Leipzig Medizinische Fakultät, Saxony, Germany, 1887; died in White Plains, October 29, aged 87, of myocardial degeneration.

Louis Joseph Thibault, Waterbury, Conn.; Yale University School of Medicine, New Haven, 1900; served as school physician of Waterbury and health officer of Wolcott; on the staff of St. Mary's Hospital, where he died September 12, aged 70, of carcinoma of the prostate.

Carl Samuel Jonathan Tillmanns ✠ Los Angeles; Washington University School of Medicine, St. Louis, 1907; an Associate Fellow of the American Medical Association; died in Inglewood, September 14, aged 65, of aortic stenosis.

Genevieve Tucker, Livingston, N. J.; University of Michigan Homeopathic Medical School, Ann Arbor, 1880; died September 28, aged 89, of cardiovascular renal disease and sarcoma of the left forearm.

Carl Christian Vogel, Elroy, Wis.; Bennett Medical College, Chicago, 1901; Northwestern University Medical School, Chicago, 1903; died in the Richland Hospital, Richland Center, September 26, aged 74, of bronchopneumonia, paralysis agitans and arteriosclerosis.

Frederick Paul White, Lemongrove, Calif.; University of Louisville (Ky.) Medical Department, 1888; died in the Paradise Valley Sanitarium and Hospital in National City, October 30, aged 84, of heart disease and hypertension.

Charles Edward Wooding ✠ Narberth, Pa.; University of Virginia Department of Medicine, Charlottesville, 1905; died October 5, aged 69, of coronary occlusion.

KILLED IN ACTION

LIEUT. HENRY W. HUGHES
M.C., A.U.S., 1906-1945

CAPT. ABRAHAM SOPHIAN JR.
M.C., A.U.S., 1915-1944

CAPT. NORMAN E. ZAHRT
M.C., A.U.S., 1915-1946

Henry William Hughes, New York; Georgetown University School of Medicine, Washington, D. C., 1933; member of the American Medical Association; interned at St. Vincent's Hospital; served a residency at the Central Islip State Hospital at Central Islip, N. Y.; began active duty as a first lieutenant in the medical corps, Army of the United States, in April 1942; in April 1943 was listed as a battle casualty and prisoner of war in Germany; killed in action in the European area March 31, 1945, aged 38.

Abraham Sophian Jr., Kansas City, Mo.; Cornell University Medical College, New York, 1941; interned at the Mount Sinai Hospital in Cleveland; entered the medical corps, Army of the United States, as a first lieutenant in July 1942; promoted to captain; later transferred to the 507 Parachute Infantry Regiment; reported as missing in action June 11, 1944, in France; died in July 1944, aged 29.

Norman Eldridge Zahrt, Marengo, Iowa; State University of Iowa College of Medicine, Iowa City, 1941; interned and served a residency at the University Hospitals in Iowa City; began active duty as a first lieutenant in the medical corps, Army of the United States, in December 1942; promoted to captain; missing in action July 25, 1945; aged 30; determined dead July 26, 1946.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Dec. 11, 1948.

Lord Horder's Criticisms of the National Health Service

Lord Horder, who is chairman of the Fellowship for Freedom in Medicine, has criticized the National Health Service in the lay press. He admits that as it has been in action only five months it is perhaps too soon to judge how much the patient on the one hand, and the doctor on the other, have gained or lost by the nationalization of medicine. Fortunately, the general health of the community has been high, which has kept the medical work low. In two matters the patient is feeling the pinch. One is the difficulty in getting his medicines without paying for them. The other is the sudden and considerable rise in the cost of beds in private hospital wards.

The citizen as taxpayer will have noted with some alarm that the estimated budget for the Service has been greatly exceeded. As regards the doctor, the defects stand out clearly. "Evidence is accumulating," says the secretary of the British Medical Association, "that the burden of work, particularly paper work, has greatly increased, that in many instances income has gone down; that private practice in many areas has virtually disappeared." Dr. Dain, chairman of the British Medical Association Council, repeats the dirge: "We have two difficulties—the demands on the doctors made by the patients and the insufficient pay for the doctors. We warned the Government that there was not the manpower in the medical profession or the nursing profession, nor the hospital beds available to implement the Service. Our warning was not heeded and now we are reaping the unfortunate consequences." The tragedy is that the precipitancy in nationalization was not halted by the British Medical Association.

The hundreds of letters received by the newly formed Fellowship for Freedom in Medicine show anomalies and obstructions. One doctor writes that the whole ethical basis of his daily work has been undermined. He has either to adhere to private work and suffer grave financial loss or else join the Service and take on more patients than he can look after adequately. At the moment he compromises by limiting the Service list, but the position is difficult and may not be tenable for long. Another doctor complains of grave financial loss. Both types of letter could be multiplied indefinitely. It may be said this is only the doctor's point of view. Lord Horder replies, "There is no such thing as only the doctor's point of view. Bureau or no bureau the basic element of any service must always be the doctor. The crass folly of not recognizing this and of assuming that personnel can be nationalized led to this colossal blunder. The essence of good doctoring is diagnosis, which calls for time and a close-up with the patient, both of which are now denied to thousands of practitioners. That a doctor cannot pay his way unless he has 4,000 possible patients on his list is as great a disservice to the public as to the medicine."

Renewed Attempt to Establish a National Health Service in Australia

For some time the Australian Government, which is under the control of the Labor Party, has tried to introduce a National Health Service, but has been successfuly resisted by the medical profession. The Minister of Health has now introduced a new bill for the purpose. He explained that the measure merely outlines the services, details of which could be progressively developed by regulations. The Government did not contemplate, nor did the Constitution permit, any nationalization of doctors or dentists. It was proposed to establish advisory committees of these professions to exercise a real influence on the development of the scheme. A grave shortage of doctors and dentists, facilities and buildings made gradual development of the services inevitable. The bill enabled the Commonwealth to make grants to the Australian states and other authorities for the construction, improvement and equipment of hospitals and for the provision by the states of any national health service. The services to be provided included general, consultant, specialist, dental, maternal and child health services, aerial medical and dental services and diagnostic and therapeutic convalescent after-care and nursing. The bill also authorized establishment of a medical benefit scheme for the payment of a portion of the fee of doctors. The British Medical Association had been invited to act on the committee with Commonwealth officers to consider the schedule of fees and other problems, which involved no interference with the doctor-patient relation. The patient would visit the doctor in the usual way and on his advice go, if necessary, to the appropriate specialist, half of whose fee the Government would pay. The bill authorized all efforts of doctors to establish group practices and would establish health centers, corresponding to the offices of large medical partnerships, which would provide general practitioner, specialist and diagnostic facilities. The scheme would cost annually for doctors $24,000,000.

It will be noticed that the Australian scheme differs from the British National Health Service in that the patient has to pay half the specialist's fee, while in Britain he pays nothing. This is certainly an improvement, as it does somewhat reduce the evils of "something for nothing," which, as shown in previous letters to THE JOURNAL, is the root of many evils in the British National Health Service.

Munificent Gift for Surgical Research and Education

London is becoming more than ever an international medical center. The latest development is due to the munificence of the automobile magnate Lord Nuffield, who has already done so much to promote medical research. He has now given $1,000,000 to the Royal College of Surgeons for the promotion of research and education in the surgical sciences and in order to increase facilities and amenities for young surgeons, particularly those from the British Dominions, the United States and other countries who come to Britain for advanced study. The donor feels that if the Royal College of Surgeons is to make the fullest use of its facilities it is desirable to have residential accommodation on its own site, so that graduates who are studying surgery and the basic sciences in London may have access at all times to the unique museums, the library and the laboratories of the college. The donor also strongly believes in the beneficial influence of collegiate life. His gift is to be devoted to erecting a College of the Surgical Sciences attached to the Royal College of Surgeons, where the students will be able to live, to meet socially the principal surgeons of this country who will be attending the college and also distinguished surgical teachers from other countries, who will naturally use the college during their visits to London. It will be known as the Nuffield College of Surgical Science.

The donor is hopeful that those who have the privilege of living in the college and those who use its amenities will be imbued with something of the spirit of the collegiate life of the older residential universities, and that they will make contacts with leaders of their profession, which will be a stimulus to them and their own pupils throughout their lives, however many thousand miles they may be away from London, to the ultimate benefit of all in need of surgical aid throughout the world.

PARIS

(From Our Regular Correspondent)

Nov. 15, 1948.

Distillate of Cod Liver Oil, a Powerful Antibiotic

J. Solomides discovered in 1946 that the product of distillation of cod liver oil is an antibiotic strongly bactericidal. Experiments in vitro show that microbes in contact with this distillate die hundreds of times more quickly than do microbes in contact with cod liver oil.

	Cod Liver Oil, Minutes	Distillate, Minutes
Colibacillus	360	0.5
Staphylococcus	360	0.5
Bacillus tuberculosis	2,800	10

Experiments on guinea pigs have confirmed the antibiotic power of this product. The author has made the first therapeutic trials with local application of the distillate in pure form or incorporated in an excipient with a petrolatum or wool fat base, in microbic or amicrobic dermatitis. Results were excellent and rapid in 3 cases of furuncle, some cases of acne, 4 cases of onychomycosis and 5 cases of mycosis. The author has obtained recoveries in 7 of 10 cases of chronic eczema, in 3 cases of burns of the second degree and 2 roentgen ray burns. The author has been struck by the antiphlogistic and soothing effect of this product, its composition being 82 per cent fatty acid and 18 per cent nonsaponifiable substances; the former may be endowed with a vitaminic F activity, which could account for the action on eczema and pruritus.

J. Cabibel has studied the effect of this distillate in certain conditions associated with adenopathy or other tuberculous symptoms, which Burand, Dejean, Jaquelin and others consider as pretuberculous or atypical tuberculosis. Treatment is 0.10 Gm. distillate of cod liver oil given in suppositories every four to five days for three to four weeks. In 50 per cent of the cases, the treatment has been effective, sometimes in a spectacular way; in 25 per cent improvement was less noticeable, and in 25 per cent it was still inapparent after the administration of eight to ten suppositories. In 1 of 2 cases of typical tuberculosis the treatment has proved satisfactory after three months.

Meeting of Experts on Plague and Typhus

Under the auspices of the International Office for Public Hygiene and of the World Health Organization a meeting took place in Paris October 5-8, to promote an international campaign against plague and typhus. The discussion was conducted by Dr. Gaud, director of the office; Dr. Y. Biraud, director, Division of Epidemiology, World Health Organization, acted as secretary; others taking part were Dr. G. Blanc, director of the Pasteur Institute of Morocco, and Dr. A. Macchiavello, epidemiologist of the Panamerican Sanitary Office, Lima, Peru. The report drawn by these scientists shows that: (1) it is possible to eliminate all danger of plague in villages and towns thanks to D.D.T. (dichlorodiphenyltrichloroethane) and to certain poisons against rats; (2) plague among rodents, living far away from human communities escapes all control, but does not constitute a serious danger to man; (3) the use of living vaccines in Africa and Java (15,000,000 persons have been vaccinated) proved effective for the prevention of plague, but vaccination can play only a secondary part, rats being transmission agents of the disease; (4) according to experts, in many cases formerly considered fatal, cure can be effected today with streptomycin and sulphonamide compounds; (5) D.D.T. also plays a part of prime importance in the prevention of typhus; (6) remarkable results in the treatment of typhus were obtained with an antibiotic similar to streptomycin, the existence of which has been brought to light by recent studies made in South America.

Larger Venous Grafts Successful

In 1920, Professor R. Leriche attempted to replace segments of arteries affected with thrombosis by venous graft. At that time numerous attempts were not entirely successful except when the graft did not extend over 5 to 6 cm. Larger grafts were considered impracticable on account of the risk of provoking a new thrombosis. Recently J. Kunlein, one of the disciples of Leriche, resumed this method, using the anticoagulative power of heparin, and he has performed venous grafts of 15, 26, 28 to 29, 34.5, 35.5, 37 and 47 cm. in 8 patients seriously affected and whom vasodilator methods did not improve sufficiently. The results, presented at the last meeting of the National Academy of Sciences by Professor Leriche and Dr. Kunlein, were excellent: Once the graft is performed, blood circulates freely, the peripheral pulse reappears, the foot gets warm again and pain disappears. Seven grafts out of 8 have remained permeable, among which is a 37 cm. graft of five months' duration, another of three months and others of only a few weeks. Patients operated on have resumed walking without claudication, which is the great advantage over arteriectomy. It is the first time that venous grafts of such length have been realized without alteration of the venous endothelium in 7 cases out of 8. The authors think that this new method will transform the future of patients affected with arterial thrombosis.

ITALY

(From Our Regular Correspondent)

FLORENCE, Nov. 15, 1948.

Semb's Thoracoplasty

At a meeting of the Association Against Tuberculosis in Genoa, Prof. Biancalana presented a report of Semb's thoracoplasty, an operation frequently done in the Anglo-American countries, but little known in Italy. The speaker gave an exact description of the operative technic and particularly of the apicolysis. The exposure is obtained along the mediastinal fascia instead of by the extrapleural route. The intervention described by Semb in 1935 consisted of the removal of five to six ribs in one stage. Resulting complications were frequent, due to massive caseous pneumonia or aspiration bronchopneumonia, particularly in phrenectomized patients, who have difficulty in expectoration. Lobar or total atelectasis was frequent, which prepared the ground for pneumonia. These complications induced Biancalana in 1940 to carry out the intervention in two stages, generally with the removal of three ribs in each stage. Criticism, starting with the subdivision of the intervention into several stages, that the patient may present himself the second time in worse condition, that the resection of the ribs must be more extensive and that the infectious complications may be greater, does not seem well founded according to Biancalana's experience. Neither does the speaker share the conviction of some surgeons that the cavities, being pushed back by the apicolysis toward the elastic parenchyma, may be less easily collapsible than those pushed against the rigid floor of the vertebral bodies and the mediastinum, as in simple plastic operations. The speaker has observed suppuration of the operative breach in only 2 or 3 per cent of the cases. Occasionally a rise of temperature makes one think of an infection of the sero-hemorrhagic collection in the cavity of the apicolysis. In those cases Biancalana omits an explorative puncture because of the risk of spreading infection to an area where it did not exist, and he does not advise maintaining drainage for the first twenty-four hours as Semb does, since he believes the extravasation useful for maintenance of the collapse of the apex. Biancalana concluded that the distrust in this intervention is not justified. In fact in his cases the mortality rate was 3 per cent, while in 79 per cent of the cases he obtained good results or stabilization. In only 18 per cent did he observe doubtful results or failures.

Congress of the Latin Otorhinolaryngologic Association

This association held its seventh congress in Turin Sept. 20-22, 1948, dealing extensively with the subject of the palatine tonsil.

Terracol and Guerrier reported on the blood supply of the tonsils. Bachi reported on the embryology of the palatine tonsil. Taillens discussed tonsillar physiopathology. Porta reported on the changes in the tonsil at various ages. In the third, the fourth and the fifth decade the pavement epithelium which covers the free part of the tonsil presents two types of cell described by Agazzi; i. e., corneal pearls and epithelial bodies which reveal a morphologic and structural analogy with Hassal's corpuscles in the thymus. Mottura reported on the hyperplastic and neoplastic phenomena associated with the lymphoreticular tissue of the tonsil. Cambrelin spoke about tonsillar manifestations in the pathology of leukemia, aleukia and lymphogranulomatosis.

MADRID

(From Our Regular Correspondent)

Nov. 15, 1948.

Cortical Secretion and the Defense of the Organism

Dr. Morros Sarda, professor of physiology at the Escuela Española de Veterinaria, has done important studies on cortical secretion. He is a pupil of Dr. G. Marañón and his work was accomplished under the auspices of the school mentioned. The author found experimentally that there is a basic secretion of cortical hormones which, in certain circumstances, is increased, through intervention of the corticotropic hormone of the hypophysis. Because of the difficulties of determining the cortical steroids in the blood and urine, the author followed the methods of Long, Lowenstein and Zwemer for determining the values of cholesterol and of ascorbic acid in the blood, the changes in which values are reliable as representing the values of the cortical secretion. High values of ascorbinemia and of cholesterolemia are observed in all diseases corresponding to Selye's syndrome. They show cortical hypersecretion stimulated by corticotropic hormone. The initial reaction in these circumstances seems to be the secretion of epinephrine, as previously suggested by Cannon. In normal dogs weighing between 12 and 15 Kg., an injection of epinephrine in a dose varying between 0.1 and 0.4 mg. provokes an increase of blood sugar, blood cholesterol and blood ascorbic acid within the first one to two hours after the injection. That is the same response obtained to the injection of corticotropic hormone, which response seems to indicate that the medullary hormone provokes the discharge of the cortex through the hypophysis. This interpretation will be substantiated by experiments which are under way on hypophysoprivic animals. These results agree with those reported by Long on the effect of epinephrine in lowering the amount of cholesterol and ascorbic acid in the adrenal glands, probably because of the immobilization of both substances.

Studies are also under way to ascertain the changes of the blood of normal dogs after injection of large doses of either whole cortical extract or desoxycorticosterone acetate. They include refractometric quantitative determinations of the albumins and globulins of the blood and the changes of blood proteins after the injection. It has been proved that the injection of whole cortical extracts causes an increase of the proteins of the blood at the expense of the globulin fraction, the increase being associated with an increase of the speed of sedimentation of the erythrocytes and more or less lymphopenia. These results agree with those of White and collaborators. The changes caused by the injection of desoxycorticosterone acetate are of the same order.

A "syndrome of alarm" has been provoked in normal dogs by administering an intraperitoneal injection of saline serum near the freezing point. Study of the blood (leukocytic formula, sedimentation rate, albumins, globulins, glycemia, ascorbic acid and cholesterol) yields data similar to those obtained by the direct injection of either the corticotropic principle or the whole extract of the cortex. It is possible, as White suggested, that the increase of globulins is due to lympholysis with consequent liberation of gamma globulins.

The intraperitoneal injection of cold saline serum to splenectomized animals causes the same changes in their blood as it does in normal animals. These results do not confirm the point of view of Ungar, who believes that the spleen intervenes in the reaction of alarm by means of the production of "splenine" (a spleen substance).

The changes of ascorbic acid in the blood of normal or adrenalectomized rats were ascertained after intraperitoneal injection of either saline serum or epinephrine. These experiments were done on rats because these animals survive the operation if they are given salt in the water they drink and the technic of adrenalectomy in rats is simple. Because the amount of blood necessary to determine the level of ascorbic acid in the blood cannot be obtained from the same animal, rats from different lots were used. All the animals were kept on the same diet and were of about the same weight when they were used. The values of ascorbic acid in the blood of normal rats (first lot) which were killed for this determination were considered as basal values. Normal rats in the second and third lots had an injection of epinephrine and were killed one and two hours, respectively, after the injection of epinephrine. The values of ascorbic acid in the blood of rats of the second lot were higher than those of rats of the third lot, which in their turn had higher values than those of rats in the first lot.

The blood levels of ascorbic acid in adrenalectomized rats are not modified by the administration of an injection of epinephrine. The intraperitoneal injection of very cold saline serum induces changes in the blood levels of ascorbic acid in normal rats but not so in adrenalectomized rats. The results support the belief of the intervention of epinephrine in the development of the syndrome of alarm, giving origin to the consecutive intervention of corticotropic hormone and further occurrence of cortical secretion.

In animals into which a large amount of cortical extract is injected before they are subjected to the stimulus provoking the reaction of alarm, the changes of the blood in the course of the syndrome are almost unnoticeable (the ascorbic acid level in the blood frequently does not change). This fact, which was previously reported by the Sayers, suggests that in these circumstances there is neither a secretion of the corticotropic principle nor a subsequent cortical reaction. The fact shows that the secretion of the corticotropic principle is conditioned by a certain level of cortical hormones or cortical principles in the blood. If the latter diminishes, as probably happens in animals not previously treated, and subjected to the stimuli which produce the syndrome of alarm, the latter will occur in the presence of a diminished level of the hypophysial principle, with consequent mobilization of cortical steroids together with ascorbic acid and cholesterol. In animals previously treated, the exogenic cortical hormone prevents lowering of this substance in the blood and the consequent hypophysial reaction. This also occurs with either the thyroid hormone or the estrogens, the lowered concentration of which in the blood causes hypersecretion of the correspondent glandulotropic principle.

The results of these experiments show that the body consumes a large amount of cortical hormones in the conditions created by the syndrome of alarm. They seem to place some value on the role of epinephrine in stimulating secretion of cortical hormones, which is regulated by the level of these

hormones in the blood. Lowering of the level will stimulate secretion and liberation of the corticotropic principle, whereas an increased level will delay secretion. It is possible, however, as Long suggested, that epinephrine is the cause of the consumption of cortical hormone by the tissues through the metabolic changes which it produces.

The authors believe that the chain of facts is as follows: stimulation of the sympathetic nervous system with consequent discharge of epinephrine; consumption of the cortical hormone in the blood by the tissue, through the metabolic changes due to the effect of epinephrine; lowering of the cortical hormone in the blood and discharge of the corticotropic principle; discharge of adrenal cortical secretion together with secretion of ascorbic acid and of cholesterol, and increased amount of ascorbic acid and cholesterol in the blood, lymphopenia, lympholysis, liberation of lymphocytic proteins and increase of proteinemia at the expense of the fraction of globulins.

Correspondence

EPILEPSY IN CHILDHOOD

To the Editor:—In the December 4 issue of THE JOURNAL, page 1012, Dr. M. G. Peterman in an article "Epilepsy in Childhood" speaks disparagingly of "learned authorities" who "offer false encouragement and lead to cruel disillusionment" by speaking of "83 per cent improvement in epilepsy and of the 'hopeful disorder.'"

However, Dr. Peterman must himself be one of these "noted authorities," because in this same paper he presents data showing that 80 per cent of his patients given either phenobarbital or the ketogenic diet were improved. Presumably he still further increased this percentage by giving unimproved patients other drugs now available, diphenylhydantoin sodium ("dilantin sodium"), methylphenylethyl hydantoin ("mesantoin"), trimethadion ("tridione") or "thyphenytoin" (5,5-phenylthienylhydantoin).

When speaking to panic-stricken parents about epilepsy or other serious illnesses, must we avoid the word "hopeful" unless we can expect improvement in more than 80 per cent of patients? Must we remain gloomy until the proportion is 90 per cent, or, perhaps, 100 per cent?

WILLIAM G. LENNOX, M.D., Boston.

[NOTE.—The letter was referred to Dr. Peterman, who replies:]

To the Editor:—I may have spoken disparagingly of the misinformation given to the public by the "learned authorities" in the advertising of the medical journals.

One of these advertisements reads "equal opportunities for the child with petit mal! the opportunity to develop his natural aptitudes . . . to grow up with other children—like other children . . . to have full control of symptoms . . . this is ———'s answer to a high percentage of petit mal victims and their anxious parents."

The advertisements, and particularly the article in the *Saturday Evening Post*, imply that epilepsy may be cured. The public has so interpreted the article; hence, the criticism which I presented in my article. I am basing my conclusions on the correspondence and telephone calls I received after the publication of the article. I do not believe that a percentage reduction in the number of seizures means improvement as long as convulsions continue at least once a month and may be anticipated at any time.

You will note that in my article and in all of the others I have never used the word "cure." I have reported my results as they have been collected from my records by my assistants and me. This series is not large enough to justify conclusions and therefore they were not drawn.

When I speak to "panic-stricken parents" I try to give them the honest facts and the truth of the situation concerning the case in hand. I do believe that these parents may be given all the hope possible. They should be encouraged in every way. However, that does not mean to go to the length of advertising such statements as "83 per cent improvement" or that "epilepsy can be licked."

I would quite agree with Lennox and the Gibbs in their article in THE JOURNAL, Sept. 9, 1939, page 1002, in which they conclude after making tracings on 138 parents that "definitely abnormal records were obtained in 54 per cent of the relatives, against 6 per cent in a control group who were unrelated to epileptic persons. In forty-six of the families, records were made of both parents. In 28 per cent both parents and in 94 per cent at least one parent had abnormal records. We believe that this evidence indicates that the dysrhythmia of epilepsy is inheritable and such a dysrhythmia when demonstrable may represent a predisposition to epilepsy or some allied disorder.

"These observations should be of practical value in the prophylaxis and eugenics of epilepsy and should assist the physician in tracing the descent of epilepsy and in advising patients and their relatives about marriage."

That is exactly what I should like to do in the message that I believe should be given to the public. While this disease may not be inherited any more than diabetes, my point is that it is inherited as is diabetes and that the answer for its elimination lies in eugenics and birth control.

M. G. PETERMAN, M.D.,
411 E. Mason St., Milwaukee 2, Wis.

THE DOCTOR AND WORLD PEACE

To the Editor:—We should like to emphasize that the greatest problem in preventive medicine today is the preservation of peace. In order to achieve a lasting peace, we feel that the extension of the principle of law and order to the world level is the only method that will work. To this end, it is necessary that the United States officially propose that the United Nations be strengthened sufficiently to enforce peace, and that the charter of the United Nations be amended for this purpose.

There are apparently three courses open: an indefinite armed truce, a third world war and world government. Opinion in favor of world government is growing rapidly in the United States and throughout the world. We do not know whether or not Russia will join in a world government. The only way to find out is to make the proposal. The United States can lose nothing by making such a sincere proposal and the whole world stands to gain immeasurably by such action.

Since the establishment of a durable peace would be the greatest measure ever undertaken in preventive medicine, we urge our fellow physicians to join and support their local chapters of the United World Federalists and we ask the House of Delegates to endorse the principle of extending enforceable law and order to the world level.

EDWARD BORTZ, M.D.,
Past President of the American Medical Association and member of Advisory Board of Philadelphia Area Council of United World Federalists.

JOHN ARNETT, M.D.,
Member of the Philadelphia Area Council of United World Federalists.

HORACE PETTIT, M.D.,
President, United World Federalists of Pennsylvania.

Miscellany

RECOMMENDED TERMS AND DEFINITIONS FOR CELLS OF THE LEUKOCYTIC, ERYTHROCYTIC AND THROMBOCYTIC SERIES

The Committee for Clarification of the Nomenclature of Cells and Diseases of the Blood and Blood-Forming Organs, sponsored by the American Society of Clinical Pathologists and the American Medical Association, has prepared two reports [1] of its recommendations for preferred hematologic terminology which are briefly summarized in the present report. It is not the intention of the committee to imply from its recommendations of terms to be used that the origin of all these cells has been settled. No changes are suggested in the criteria in current use for determining the series to which a cell belongs. It is planned that a permanent body should reexamine the terms periodically, perhaps every five or ten years.

The present report consists of general terms which are recommended, followed by a list summarizing the names for each

1. First report of the Committee for Clarification of the Nomenclature of Cells and Diseases of the Blood and Blood-Forming Organs. Am. J. Clin. Path. **18:** 443-450, May, 1948. Second report of the Committee for Clarification of the Nomenclature of Cells and Diseases of the Blood and Blood-Forming Organs, (to be published).

Terms To Be Used and Terms To Be Avoided

(The essential characteristics which distinguish each stage of development from the preceding and following ones are given in italics above and below the arbitrary lines of demarcation.)

Term To Be Used	Terms To Be Avoided
Lymphocytic Series	Lymphoid, lymphatic, lymphogenous, lymphocyte, mononuclear
Lymphoblast	Myeloblast, hemocytoblast, lymphoidocyte, stem cell, lymphocyte
Fine chromatin structure	
Chromatin clump	
Prolymphocyte	Large lymphocyte, pathologic large lymphocyte, atypical leukocytoid lymphocyte, monocyte, immature lymphocyte
Larger cell size or finer chromatin	
Coarse chromatin structure	
Lymphocyte	Small, medium or large lymphocyte, normal lymphocyte, small medium or large mononuclear
Monocytic Series	Monocytoid, monocytogenous, mononuclear, monocyte
Monoblast	Myeloblast, hemocytoblast, lymphoidocyte, lymphocyte, stem cell, immature monocyte
Fine chromatin structure	
Irregularly shaped nucleus	
Promonocyte	Premonocyte, hemohistioblast, immature monocyte, Ferrata cell
Nucleolus present	
Nucleolus absent	
Monocyte	Large mononuclear, transitional, clasmatocyte, endothelial leukocyte, histiocyte, resting wandering cell
Granulocytic Series	Myeloid, myelogenous, myelocyte, myelocytic, granulocyte, leukocyte, leukocytic, leucocyte, leucocytic
Myeloblast	Granuloblast, hemocytoblast, lymphoidocyte, lymphocyte, stem cell
Fine chromatin structure	
Chromatin clump	
Progranulocyte	Promyelocyte II, leukoblast, myeloblast, premyelocyte, promyelocyte, progranulocyte A
No specific granules	
Specific granules	
Myelocyte	Granulocyte, myelocyte B, non-filament, class I
Round or oval nucleus	
Indented nucleus	
Metamyelocyte	Metagranulocyte, juvenile, myelocyte C, nonfilament, class I
Bean or kidney shaped nucleus	
Part of nucleus with parallel sides	
Band cell	Staff cell, stab cell, non-filament, class I, rod nuclear, polymorphonuclear, stab-kernige, rhabdocyte, non-segmented
No filament present	
Nuclear lobes connected by filaments	
Segmented cell	Polymorphonuclear, filamented, class II, III, IV or V, lobocyte

Term To Be Used	Terms To Be Avoided
Plasmacytic Series	Plasma cellular, plasmacytogenous, myeloma cell, plasmacyte
Plasmablast	Myeloblast, hemocytoblast, lymphoidocyte, lymphocyte, stem cell, lymphoblastic plasma cell, myeloma cell
Fine chromatin structure	
Chromatin clump	
Proplasmacyte	Türk cell, Türk irritation form, lymphoblastic or myeloblastic plasma cell, myeloma cell
Nucleolus present	
Nucleolus absent	
Plasmacyte	Plasma cell, Unna's plasma cell, Marschalko's plasma cell, plasmacytoid lymphocyte, myeloma cell
Erythrocytic Series	Erythroid, erythrocytoid, erythron, erythrocytogenous, erythrocyte
Rubriblast	Erythroblast, megaloblast, pronormoblast, promegaloblast, normoblast, hemocytoblast, stem cell, myeloblast, lymphoidocyte, karyoblast
Fine, stippled chromatin	
Chromatin clump	
Prorubricyte	Erythroblast, megaloblast, pronormoblast, normoblast, macronormoblast, macroblast, prokaryocyte
Nucleolus present	
Nucleolus absent	
Rubricyte	Normoblast, pronormoblast, macronormoblast, erythroblast, polychromatophilic normoblast, karyocyte
Definite chromatin structure	
Pyknotic nucleus	
Metarubricyte	Normoblast, erythroblast, metakaryocyte
Nucleus present	
Nucleus absent	
Reticulocyte	
Reticulum present with supravital stain	
No reticulum	
Erythrocyte	Red blood cell, erythroplastid, normocyte, akaryocyte
Thrombocytic Series	Megakaryocytic, platelet, thrombocyte
Megakaryoblast	Megalokaryoblast
Fine chromatin structure	
Chromatin clump	
Promegakaryocyte	Premegalokaryocyte
Nucleolus present	
Nucleolus absent	
Megakaryocyte	Megalokaryocyte
Nucleus present	
Non-nucleated cytoplasmic fragment	
Thrombocyte	Platelet, thromboplastid

series and for the individual cells, showing the number of stages of differentiation which are of clinical significance, giving clear-cut criteria for the exact point of arbitrary differentiation between stages, and names previously in use, which it is recommended be avoided so that clarity can be attained in hematologic literature and reports.

Miscellaneous Definitions

Leukocyte: Any white blood corpuscle or its precursor.

Blast Cell: The most undifferentiated cell of any series, having fine chromatin structure, usually demonstrable nucleoli and basophilic cytoplasm with or without azurophilic granules.

Fine Chromatin Structure: A nuclear appearance of a background of homogeneous lighter-staining parachromatin, overlaid by a darker-staining lace net meshwork or finely stippled pattern of basichromatin with no aggregation of the basichromatin into even a single clump of appreciable size.

Nucleolus: A homogeneous blue-staining area in the nucleus, staining more like the cytoplasm of the cell.

Azurophilic Granules: The granules seen typically in monocytes and lymphocytes. The term refers to an affinity for a particular dye and not to the color or the granules.

Specific Granules: Neutrophilic, eosinophilic or basophilic granules.

Granulocytes: An inclusive term to apply to cells containing specific granules, regardless of stage of differentiation.

Disintegrated Cell: Any cell of any series in which the cytoplasmic outline or nuclear membrane has been disrupted, excluding changes that occur during mitosis. They should be recorded in all differential reports.

Pernicious Anemia Type: The qualifying adjective phrase to be applied to any cell of the erythrocytic or granulocytic series to indicate the presence of morphologic changes characteristically seen in pernicious anemia and certain other macrocytic anemias. This change is a relative increase of parachromatin in nucleated erythrocytes and giant forms with bizarre nuclei in the granulocytes.

Modifying adjectives may be applied to any of the recommended terms but their definitions should be clearly stated in all publications and reports.

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: *Parts I & II.* Various Centers, Feb., June and Sept. 1949. *Part II.* April 1949. Exec. Sec., Mr. E. S. Elwood, 225 S. 15th St., Philadelphia 2, Pa.

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF ANESTHESIOLOGY, INC.: *Written.* July 15. Various locations. Final date for filing application is April 15. Sec., Dr. Curtiss B. Hickcox, 745 Fifth Avenue, New York 22.

AMERICAN BOARD OF DERMATOLOGY AND SYPHILOGY: *Written.* Various Centers, Feb. 17. *Oral.* New York City, April 1-3. Sec., Dr. George M. Lewis, 66 East 66th Street, New York 21.

AMERICAN BOARD OF INTERNAL MEDICINE: *Oral.* San Francisco, Feb. 8-10, 1949. New York City, March 23-25, Philadelphia, June 1-3. *Written.* Oct. 17, 1949. Final date for filing application is May 1. Asst. Sec.-Treas., Dr. W. A. Werrell, 1 Main St., Madison 3, Wis.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: *Oral.* Chicago, June 1949. Final date for filing application is Jan. 1949. Sec., Dr. W. J. German, 310 Cedar Street, New Haven, Conn.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY, INC.: *Oral.* Chicago, May 8-14. Final date for filing application is April 1. Sec., Dr. Paul Titus, 1015 Highland Building, Pittsburgh 6.

AMERICAN BOARD OF OPHTHALMOLOGY: *Written.* Jan. 14. *Oral.* San Francisco, March 21-24; New York, June 11-15; St. Louis, Oct. 15-19; Boston, Dec. Sec., Dr. S. J. Beach, 56 Ivie Rd., Cape Cottage, Maine.

AMERICAN BOARD OF ORTHOPEDIC SURGERY: *Part I.* Various Centers, April and May. Sec., Dr. Francis M. McKeever, 1136 W. 6th St., Los Angeles 14.

AMERICAN BOARD OF OTOLARYNGOLOGY: New York, May 11-14; Chicago, Oct. 4-7. Sec., Dr. D. M. Lierle, University Hospital, Iowa City.

AMERICAN BOARD OF PATHOLOGY: Boston, April. Final date for filing application is March 1. Sec., Dr. Robert A. Moore, 507 S. Euclid Ave., St. Louis 10, Mo.

AMERICAN BOARD OF PEDIATRICS: *Oral.* St. Louis, Feb. 18-20. Baltimore, May 7-9. Exec. Sec., Dr. John McK. Mitchell, 6 Cushman Rd., Rosemont, Pa.

AMERICAN BOARD OF PHYSICAL MEDICINE: Atlantic City, June 4-5. Final date for filing application is March 15. Sec., Dr. R. L. Bennett, 30 N. Michigan Blvd., Chicago.

AMERICAN BOARD OF PLASTIC SURGERY: Examinations are given in June and November of each year in the home town of applicants. Sec., Treas., Dr. Louis T. Byars, 400 Metropolitan Bldg., St. Louis, Mo.

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY: *Oral.* May. Final date for filing application is Feb. 15. Sec., Dr. F. J. Braceland, 102-110 Second Ave., S.W., Rochester, Minn.

AMERICAN BOARD OF SURGERY: *Written.* Various Centers, March 1949. Sec., Dr. J. S. Rodman, 225 S. 15th St., Philadelphia.

AMERICAN BOARD OF UROLOGY: Feb. 1950. Sec., Dr. Harry Culver, 7935 Sunnyside Road, Minneapolis 18, Minn.

BOARDS OF MEDICAL EXAMINERS

ALABAMA: *Examination.* Montgomery, June 28-30. Sec., Dr. D. G. Gill, 519 Dexter Ave., Montgomery.

ALASKA: * Juneau, March 1. Sec.-Treas., Dr. W. M. Whitehead, Box 140, Juneau.

ARKANSAS: * Little Rock, June 9-10. Sec., Dr. L. J. Kosminsky, Texarkana. *Eclectic.* Little Rock, June 2-3. Sec., Dr. C. H. Young, 1415 Main St., Little Rock.

CALIFORNIA: *Examination.* Los Angeles, Feb. 28-March 3. Sec., Dr. Frederick N. Scatena, 1020 N St., Sacramento.

CONNECTICUT: * Hartford, March 8-9. Secretary to the Board, Dr. Creighton Barker, 258 Church Street, New Haven.

DISTRICT OF COLUMBIA: * *Reciprocity.* Washington, March 14. Sec., Dr. George C. Ruhland, 4130 Municipal Building, Washington.

FLORIDA: * *Examination,* Jacksonville, June 26-28. Sec., Dr. Frank D. Gray, 12 N. Rosalind Ave., Orlando.

GEORGIA: *Examination.* June, Atlanta and Augusta. *Reciprocity.* Atlanta, June. Sec., Mr. R. C. Coleman, 111 State Capitol, Atlanta.

GUAM: *Endorsement.* Agana, Last Friday of each month. Sec., Capt. C. K. Yeungkin, Dept. of Public Health, Guam, % F.P.O. San Francisco, Calif.

INDIANA: *Examination.* Indianapolis, June. Sec., Board of Medical Registration and Examination, Dr. Paul R. Tindall, 416 K. of P. Bldg., Indianapolis.

MAINE: Portland, March 8-9. Sec., Dr. Adam P. Leighton, 192 State Street, Portland.

MARYLAND: *Examination,* Baltimore, June 21-24. Sec., Dr. Lewis P. Gundry, 1215 Cathedral St., Baltimore.

MASSACHUSETTS: *Examination.* Boston, March 8-11. Sec., Dr. George L. Schadt, 413 E. State House, Boston.

MINNESOTA: * Minneapolis, Jan. 18-20. Sec., Dr. J. F. DuBois, 230 Lowry Medical Arts Building, St. Paul.

MISSISSIPPI: Jackson, June. Asst. Sec., Dr. R. N. Whitfield, State Board of Health, Jackson.

MISSOURI: Kansas City, Jan. 24-26. Sec., Mr. John A. Hailey, State Capitol Bldg., Box 4, Jefferson City.

MONTANA: Helena, April 4-6. Sec., Dr. O. G. Klein, First National Bank Building, Helena.

NEBRASKA: * *Examination.* Omaha, June. Dir., Bureau of Examining Boards, Mr. Oscar F. Humble, 1009 State Capitol Building, Lincoln 9.

NEVADA: Carson City, May 2. Sec., Dr. G. H. Ross, 112 N. Curry Street, Carson City.

NEW HAMPSHIRE: Concord, March 10. Sec., Board of Registration in Medicine, Dr. John S Wheeler, 107 State House, Concord.

NEW JERSEY: *Examination.* Trenton, June 21-24. Sec., Dr. E. H. Hallinger, 28 West State Street, Trenton 8.

NEW MEXICO: Santa Fe, April 11-12. Sec., Dr. V. E. Berehtold, 141 Palace Ave., Santa Fe.

NEW YORK: *Examination.* Various Centers, Feb. 1-4. Sec., Dr. J. L. Lochner, Jr., 23 S. Pearl St., Education Bldg., Albany.

NORTH CAROLINA: *Endorsement.* Raleigh, Jan. 17. Sec., Dr. Ivan M. Procter, 226 Hillsboro St., Raleigh.

OHIO: *Endorsement.* Columbus, Jan. 25 and April 5. *Written.* Columbus, June. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus.

PENNSYLVANIA: *Examination.* Philadelphia, Jan. 1949. Act. Sec., Mrs M. G. Steiner, 351 Education Bldg., Harrisburg.

PUERTO RICO: *Examination.* Santurce, March 1. Sec., Mr. Luis Cueto Coll, Box 3717, Santurce.

SOUTH CAROLINA: Columbia, June 27-29. Sec., Dr. N. B. Heyward, 1329 Blanding St., Columbia.

SOUTH DAKOTA: Pierre, Jan. 18-19. Sec., Dr. G. J. Van Heuvelen, Capitol Bldg., Pierre.

TEXAS: *Examination.* Austin, June 16-18. Sec., Dr. M. H. Crabb, 209 Medical Arts Bldg., Fort Worth 2.

UTAH: *Examination.* Salt Lake City, July. Sec., Dept. of Registration, Miss Rena B. Loomis, 324 State Capitol Bldg., Salt Lake City.

VERMONT: *Examination.* Burlington, Feb. 3-5. Sec., Dr. F. J. Lawliss, Richford.

WASHINGTON: * Seattle, Jan. 17-19. Sec., Dept of Licenses, Miss Virginia Wotherspoon, Olympia.

WYOMING: *Examination.* Cheyenne, Feb. 7. Sec., Dr. Franklin D. Yoder, Cheyenne.

* Basic Science Certificate required.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

ALASKA: Juneau, Feb. 21-26. Sec.-Treas., Dr. C. Earl Albrecht, Box 1931, Juneau.

COLORADO: *Examination.* Denver, Mar. 2-3. Sec., Dr. Esther B. Starks, 1459 Ogden St., Denver.

CONNECTICUT: New Haven, Feb. 12. Exec. Asst., State Board of Healing Arts, Miss Mary G. Reynolds, 110 Whitney Ave., New Haven 10.

DISTRICT OF COLUMBIA: *Examination.* Washington, April 18-19. Sec., Dr. George C. Ruhland, 4130 Municipal Bldg., East, Washington.

FLORIDA: *Examination.* Gainesville, June 11. Sec., Mr. M. W. Emmel, University of Florida, Gainesville.

MINNESOTA: *Examination.* April, June and Oct. Sec.-Treas., Dr. Raymond N. Bieter, 105 Millard Hall, Univ. of Minnesota, Minneapolis.

OKLAHOMA: Spring of 1949. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

OREGON: Portland, March 5 and June 18. Sec., Mr. Charles D. Byrne, State Board of Higher Education, Eugene.

RHODE ISLAND: *Examination.* Providence, Feb. 9. Chief, Mr. Thomas B. Casey, 366 State Office Building, Providence.

SOUTH DAKOTA: Vermillion, June 3-4. Dr. G. M. Evans, 310 E. 15th St., Yankton.

TENNESSEE: Memphis, March 21-22. Sec., Dr. O. W. Hyman, 874 Union Ave., Memphis 3.

WISCONSIN: Madison, April 2.. Milwaukee, June 4. Sec., Prof. W. H. Barber, Ripon College, Ripon.

V I
194

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Food and Drug Acts: Sufficiency of Evidence of Misbranding.—The Pasadena Research Laboratories, Inc., and an individual defendant were found guilty on five counts of an information charging that they unlawfully introduced adulterated and misbranded drugs into interstate commerce. From judgments fining the laboratory and placing the individual defendant on probation, all the defendants appealed to the United States court of appeals, ninth circuit.

Two drugs manufactured by the defendants were involved in this proceeding. The first was known as "indoform," vials of which carried labels announcing that each cubic centimeter thereof contained three "international units" of posterior pituitary and 1 grain of "thyroid substance." A vial of this drug was sent to the office of the Food and Drug Administration in Washington, D. C., and was there examined by a pharmacologist and analyst employed by the Administration. He testified that he "found practically no posterior pituitary in that product, an almost immeasurable quantity." After conducting the test, he placed the bottle into a locked refrigerator until the next day, when he wrapped it, put a seal on it and sent it to San Francisco. He was asked whether or not the drug had contained 3 international units on the date of shipment by the defendant some six months previously, and he answered that it was his opinion that on the date in question "there was a quantity of posterior pituitary which was not measurable by the standard methods of measuring it, or there was none." When the drug reached San Francisco it was examined by a chemist for the Administration located in that city, who tested the drug for "thyroid content." He testified, "There was no thyroid present whatsoever."

The other drug was known as "pluri-B." The labels on vials of this drug set forth that this "sterile solution of pluri-B" contains 50 mg. of thiamine hydrochloride per cubic centimeter. The labels also said that the contents were "for intramuscular or intravenous use." A chemist in the employ of the Administration in Washington, D. C., examined vials of this drug and testified that he found it contained approximately 33 mg. per cubic centimeter. Other vials of this drug were examined by the chief of the chemical section of the medical division of the Administration who held a doctor's degree in biochemistry. He testified that he put the vials up to a light and found "with the naked eye" that all six of them "were very badly contaminated with undissolved material." He also testified, ". . . from experience with these materials and from general information of so-called supersaturated solutions, of which this is an example, I would say that this undissolved material was undoubtedly present on June 18 when the material was shipped."

In discussing the many contentions raised by the defendants on appeal, the court of appeals said, among other things, that, while the defendants professedly recognize the rule that the government must prove its case beyond a reasonable doubt, their briefs are replete with expressions which seem to indicate that in reality the standard actually insisted on is that the government's evidence should remove all possible doubt. Quoting from a prior United States circuit court of appeals case, the court said, "The proof in a criminal case need not exclude all doubt. If that were the rule, crime would be punished only by the criminal's own conscience, and organized society would be without defense against the conscienceless criminal and against the weak, the cowardly and the lazy who would seek to live on their wits. The proof need go no further than reach that degree of probability where the general experience of men suggests that it has passed the mark of reasonable doubt."

The defendants also contended that the opinions of the government's witnesses, based on tests made after the drugs had been shipped to Washington, were "absolutely worthless because the expert witnesses had no knowledge that the alleged adulteration or misbranding did not occur enroute to the doctor's office, or in the doctor's office, or in the hands of the Government inspectors who picked up the drugs, or enroute to Washington, D. C., when shipped there by the Government inspectors." Carried to its logical conclusion, said the court of appeals, this "chain of possession" theory would require the government to prove affirmatively that each one of the many mail clerks, administration clerks and experts, doctors, nurses, express company employees "and others" handled and cared for the goods so that changes could not occur while the drugs were in their custody. Such a rigorous exaction regarding proof is supported neither by reason nor by authority. In fact, the court concluded, "There is no such rule and never has been." There is a presumption that private persons do their duty and exercise due care and this presumption should apply also to doctors and nurses whose professional training and traditions teach them to be meticulous in the handling of preparations that are to be administered to their patients. The defendants, said the court, have not pointed out, nor have we been able to find, a scintilla of evidence in the record to indicate that any of the vials were mishandled by a single postal clerk, expressman, doctor, nurse, government analyst, administration mail clerk, or any one else who had any connection with the sealing, labeling, consignment, transmission, unwrapping, unsealing or testing of the products in question. The only suggestions of mishandling are in the form of dire possibilities conjured up by resourceful counsel. On the basis of a careful study of the entire record in this case the court of appeals finally concluded that no error had been committed in the trial court and that the judgment against the defendants should be affirmed. (Certiorari denied by U. S. Supreme Court.)—*Pasadena Research Laboratories, Inc. v. United States, 169 F. (2d) 375 (1948).*

Chiropractic Practice Acts: Board may not Waive Basic Science Act Requirements.—The defendants, constituting the State Board of Chiropractic Examiners, were charged with issuing a certificate to practice chiropractic without being presented with a certificate of ability in the basic sciences. From a judgment of guilty, they appealed to the Supreme Court of Arkansas.

The chiropractic practice act of 1921 authorized the board to grant reciprocity "with States having equally as high literary professional requirements as provided in this State." The license seeker must also have graduated from a reputable college of chiropractic teaching a resident course of not less than three years in anatomy, chemistry, physiology, hygiene, symptomatology, chiropractic principles and diagnosis. An applicant meeting these requirements was granted a certificate to practice chiropractic in Arkansas without having first presented a certificate of ability in the basic sciences. The defendant argued that the chiropractic board is expressly empowered to recognize a reciprocating state's license because there has been a determination that the applicant was qualified in basic science subjects and that such state exacted literary professional requirements equal in dignity to those established in Arkansas. In 1929, however, the legislature established a board of basic science examiners. Section 19 of the basic science act directs that none of its provisions shall be construed as repealing any statute in force at the time of its passage "with reference to the requirements governing the issuing of a license to practice the healing art or any such branch thereof."

We think, said the supreme court, that the basic science act "superimposed [its] requirements" on preexisting laws. Since it directs how the licensing authority should proceed and is complete in this respect, construction is not difficult. Section 1 bars from examination any person who has not presented to the licensing board a certificate of ability in the basic science subjects issued by the state board of examiners [in the basic sciences]; but that board, Section 8, may waive the examination required by Section 7 and issue a certificate on which the licensing board may act. In either event the basic science board must certify. In the instant case the basic science board did not certify. Accordingly the judgment of guilty was affirmed. *Lindquist v. State, 213 S.W. (2d) 895 (Ark., 1948).*

139
49

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1938 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American J. Obstetrics and Gynecology, St. Louis

56:409-616 (Sept.) 1948. **Partial Index**

Further Follow-Up Study of Eclampsia. L. C. Chesley, W. H. Somers and F. H. Vann.—p. 409.
Sulfadiazine and Penicillin Prophylaxis in Cesarean Section. R. G. Douglas and R. Landesman.—p. 422.
Gynecologic Surgery in the Elderly with Special Reference to Risks and Results. F. D. Zeman and A. M. Davids.—p. 440.
Pregnancy and Kyphoscoliotic Heart Disease. C. L. Mendelson.—p. 457.
*Application of Silver Carbonate Stain for Diagnosis of Uterine Cancer by Vaginal Smear Method. H. S. Yue, G. M. Riley, N. F. Miller and K. Scharenberg.—p. 468.
Prognosis of Cardiac Patient in Pregnancy. S. Lesse.—p. 477.
Diabetes in Pregnancy. P. M. Rike and R. M. Fawcett.—p. 484.
*Aspects in Treatment of Vulvar and Cervical Carcinoma. Grace C. Donnelly and W. A. G. Bauld.—p. 494.
*Evaluation of Adjunctive Radiotherapy in Surgical Treatment of Endometrial Carcinoma. H. Speert and T. C. Peightal.—p. 502.
Perineal Dissection for Repair. A. P. Hudgins.—p. 509.
Cesarean Section for Disproportion in Multipara. L. V. Dill, T. M. Leonard and J. B. Sheffery.—p. 515.
Gonadotrophic Hormone Therapy in Man Complicated by Antihormone Formation. J. H. Leathem and A. E. Rakoff.—p. 521.
Penicillin in Secondary Infections of Advanced Cervical Malignancies. S. Di Palma and M. Schram.—p. 534.
Meprane in Treatment of Menopausal Syndrome: Evaluation of Estrogenic Efficiency and Toxicity. D. Coulton and C. W. Sewall.—p. 541.
Rapid Obstetric Analgesia by Means of Intravenous Vinbarbital Sodium. H. F. Burkons.—p. 549.
Pregnancy in Myasthenia Gravis: Review of Literature and Report of Case. L. M. Harris and G. T. Schneider.—p. 561.
Erythroblastosis Fetalis Due to Blood Type Incompatibility. J. G. Zimring.—p. 579.
Music as Diverter in Local or Spinal Anesthesia and Analgesia. E. L. Cornell.—p. 582.

Silver Carbonate Stain for Diagnosis of Uterine Cancer.—Yue and his associates modified the silver carbonate staining method of Hortega for staining the cellular elements of vaginal smears. They describe the details of the procedure and stress that the affinity of chromatin material for the silver stain and the usual hyperchromatic character of atypical cells combine to make this a useful stain in the diagnosis of uterine cancer by the vaginal smear method. The cytoplasmic and nuclear characteristics of cells impregnated with silver carbonate are described, and several noteworthy advantages of the technic over other conventional differential stains are listed.

Treatment of Vulvar and Cervical Carcinoma.—Donnelly and her associates say that a recent survey of female pelvic cancers treated at the Radium Clinic of the Montreal Maternity Hospital from 1926 to 1945, inclusive, revealed three groups which seemed of special interest: carcinoma of the vulva, carcinoma in the cervical stump and selected cases of carcinoma of the cervix treated by radiation and surgery. There were 40 cases of carcinoma of the vulva as compared with 664 cases of carcinoma of the cervix, 177 cases of carcinoma of the uterus and 185 of carcinoma of the ovary. There were 48 cases of carcinoma in a cervical stump. Although at the Radium Clinic carcinoma of the cervix was not treated surgically, there has been a small group for whom the procedure of radiation followed by surgical treatment has been used. An effort has been made to limit this method of therapy to cases of stages I and II, though a number of stage III are included. There have been 37 of these cases. Local recurrences of carcinoma of the vulva, particularly after vulvectomy, have been few, but inguinal lymph node metastases have not been infrequent. Treatment of the inguinal lymph nodes, either surgically as recommended by Taussig, or by roentgen rays, as is now being done at the authors' clinic, would appear to be important in the initial treatment of carcinoma of the vulva. Most of the true stump cases occurred so long after subtotal hysterectomy that the diagnosis of a healthy cervix at the time of operation must have been correct. More than a third of 28 patients with true stump carcinoma were known to have had bilateral oophorectomy with the subtotal hysterectomy and, therefore, could reasonably be considered to have had no ovarian tissue at the time the carcinoma developed. This fairly large percentage does not support the theory that carcinoma of the cervix is related to ovarian stimulation. There were no stage I cases of true cervical stump carcinoma, and the majority were in stages III and IV. Though it is usual to have many patients in the more advanced stages, these figures also suggest that a patient may develop a false sense of security following operation and be more prone to disregard subsequent symptoms. The survival rate has been greatly improved with radical operation after radium treatment.

Adjunctive Radiotherapy in Endometrial Carcinoma.—According to Speert and Peightal total hysterectomy with removal of both tubes and ovaries is the therapeutic keystone in the management of corpus cancer. Treatment by other methods, which may be dictated by the extent of the tumor or the condition of the patient, represents a compromise. The value of adjunctive radiotherapy, in the form of preoperative application of intrauterine radium or preoperative or postoperative external roentgen irradiation, remains to be established. The authors cite reports which are representative of the recent literature on the surgical treatment of endometrial carcinoma and which fail to prove the superiority of one form of adjunctive radiotherapy over another, or even to demonstrate the value of any form of supplementary irradiation over hysterectomy alone. The authors have reviewed the case records of all patients treated surgically for primary carcinoma of the endometrium on the gynecologic service of the Roosevelt Hospital from 1915 to Jan. 1, 1942. Analysis of 157 surgically treated cases of carcinoma of the endometrium has shown no benefit from preoperative irradiation with intrauterine radium. The best results in the early cases and with tumors of low histologic grade were obtained by hysterectomy alone. Postoperative roentgen therapy appeared to be of value in advanced cases and possibly for tumors of high histologic grading.

Annals of Allergy, Minneapolis

6:353-484 (July-Aug.) 1948

Histamine Derivatives with Prolonged Action. G. E. Rockwell.—p. 353.
Patterns of Allergic Sensitization. R. P. Wodehouse.—p. 358.
Beginnings of Allergy: Reminiscence. T. W. Clarke.—p. 378.
Histamine Treatment of Foreign Protein Type Reactions. H. E. Prince and R. L. Etter.—p. 386.
Clinical Evaluation of New Antihistamine Agent "Trimeton": Conjoint Study of 227 Patients. E. A. Brown.—p. 393.
Study of New Histamine Antagonist: (2-Methyl-9-Phenyl-2,3,4,9-Tetrahydro-1-Pyridindene Hydrogen Tartrate). R. Frank.—p. 398.
Clinical Experiences with Antistine. R. F. Hughes.—p. 405.
Treatment of Allergic and Other Dermatoses with Pyribenzamine Hydrochloride. Beatrice M. Kesten.—p. 408.
Bronchial Asthma Due to Ingestion of Fennel and Fennel Seed. S. B. Levy.—p. 415.
Nonreaginic Allergy. M. G. Meyer.—p. 417.
*Control of Allergy to Antirabic Vaccine. A. Slipyan.—p. 428.
Fall-Pollinating Red Berry Juniper. A. F. Wolf.—p. 431.
Eczematous Contact Dermatitis Due to Streptomycin. H. Keil and A. Trosow.—p. 435.
Bromothen and Chlorthen—5-Brom-2-Thenyl and 5-Chlor-2-Thenyl Derivatives of Ethylenediamine Group: Preliminary Report. B. B. Alperstein.—p. 439.

Control of Allergy to Antirabic Vaccine.—Slipyan points out that when Horak in 1939 reviewed reactions resulting from the vaccine therapy for the protection against rabies he revealed that an allergic reaction was present in 87.5 per cent of the paralytic cases and in 33 per cent of those cases in which neurologic symptoms did not develop. He also classified the reactions into six groups and advised gradual desensitization to the vaccine to prevent the allergic skin reaction. He reasoned that the prevention of the skin allergic reaction would prevent the neurologic sequels which can prove fatal. Horak's groups were the following: 1. Cases in which a generalized urticarial rash develops; these respond to epinephrine promptly. There is no mortality in this group. 2. Cases in which there are

delayed reactions of the tuberculin type, which occur at the site of the injections. These are most common and not serious. 3. Cases in which reactions occur similar to those in group 2, but much more severe and frequently associated with fever, headache, nausea and generalized adenopathy. In this group paralysis is prone to develop, and caution should be used. 4. Cases in which there is simple neuritis involving the peripheral and cranial nerves, the facial nerve being the most commonly involved. The paralysis is usually transitory. 5. Dorsal lumber myelitis most often occurring during the second and third weeks of treatment, and characterized by the gradual onset of fever, weakness and terminating in paralysis, particularly of the lower extremities. The mortality rate is low in this group. 6. Paralysis of the Landry type—sudden in onset, often with high temperature, nausea and headache, girdle pains, retention of urine, insomnia and ascending paralysis. In one third of the cases, bulbar paralysis ensues and death occurs. Evidence pointing to an allergic causation of the vaccine reactions induced Slipyan to attempt inhibition of the skin reactions by diphenhydramine. He reports a case which fell into the third group of Horak's classification. He is convinced that diphenhydramine inhibited the skin allergy and so probably prevented more serious sequels. If this can be accomplished with such simple medication, the use of skin desensitization seems cumbersome and time-consuming.

Bulletin of Johns Hopkins Hospital, Baltimore

83:187-278 (Sept.) 1948

*Differential Diagnosis of Tumors at the Cerebellopontile Recess. A. Gonzalez Revilla.—p. 187.
Effect of Para-Aminohippuric Acid on Sodium Thiosulfate Determinations in Renal Clearance Studies. S. R. Elliott and H. W. Scott Jr. —p. 213.
Therapeutic Evaluation of Iso-Par in Otitis Externa. J. S. Walker. —p. 225.
*Prefrontal Lobotomy for Relief of Intractable Pain. F. J. Otenasek. —p. 229.
Cardiac Mechanism During Anesthesia and Operation in Patients with Congenital Heart Disease and Cyanosis. R. F. Ziegler.—p. 237.
Observations on Effects of Folic Acid Antagonists, Folic Acid, Liver Extract and Vitamin B_{12} on Embryonated Eggs: Preliminary Report. P. F. Wagley and H. R. Morgan.—p. 275.

Tumors at Cerebellopontile Recess.—Gonzalez Revilla says that although the diagnosis of a lesion occupying the cerebellopontile recess is relatively easy, their clinical differentiation presents a difficult problem which frequently is not solved until a microscopic examination of the pathologic specimen is undertaken. He analyzed 205 cases of tumors of the cerebellopontile recess, verified at operation at the Johns Hopkins Hospital in a period of twenty years. He gained the impression that the age of onset and duration of symptoms are the most important points in the differential diagnosis of tumors at the cerebellopontile recess. In the first two decades of life the most common tumors are the unilateral acoustic neurinomas with peripheral neurofibromatosis, the bilateral acoustic neurinomas and abscesses. The average duration of symptoms, ten years, five years and one year, respectively, helps in their differential diagnosis. Gliomas at the recess occur predominantly between 20 and 30 years of age with a duration of symptoms varying from one to three years. Between 30 and 40 years of age the unilateral acoustic neurinomas, without peripheral neurofibromatosis, and the cholesteatomas are most commonly found. The former occur in the late 30's with an average duration of symptoms of four and a half years, while the latter start to manifest themselves in the early 30's with an average duration of symptoms of seven years. The meningiomas have the same average duration of symptoms as the unilateral acoustic neurinomas, but they appear mostly between 40 and 50 years of age. After the age of 50, tumors at the cerebellopontile recess are uncommon.

Prefrontal Lobotomy.—Otenasek reports histories of 5 patients who were subjected to prefrontal lobotomy on account of intractable pain brought on by malignant tumors such as carcinoma of the bladder, prostate, larynx and nasal sinuses and a sarcoma of the mandible. In addition to these 5 cases there have been 6 others, of carcinoma of the kidney, the neck, breast, cervix and colon, and 1 case of a long-standing carcinoma of the nose combined with a more recent carcinoma of the prostate. One patient died of intracranial hemorrhage three days after operation; the others either are free of pain and receiving no medication or have died of their cancer. Examination of these patients after operation makes it clear that prefrontal lobotomy alters a patient's reactions to pain without materially changing his ability to feel pain. Ordinary tests of pain perception by pin prick or other methods reveal that the patient's perception of pain is unchanged. When stuck with a pin such a patient will wince, but it may be difficult to make him angry by repeatedly sticking him. Thus it is the emotional component, the reaction to pain with anxiety, discouragement and apprehension, which is counteracted by the prefrontal lobotomy. This operation relieves pain by interrupting the pathways at a psychologic rather than a physiologic level.

Canadian Medical Association Journal, Montreal

59:201-306 (Sept.) 1948

Practice of Surgery in Canada. W. E. Gallie.—p. 201.
Post-Traumatic Granuloma of Bony Orbit Simulating Tumor. G. S. Ramsey, H. W. Laws, J. E. Pritchard and H. Elliott.—p. 206.
Progress in War Medicine Since 1939. L. C. Montgomery.—p. 211.
Recurring Syncope in Patients over 45 Years of Age. C. Hunter. —p. 217.
Hysterosalpingography. R. Simard and G. Fortier.—p. 220.
Anatomical Basis for Continuous Caudal and Other Forms of Regional Block in Obstetrics. J. G. P. Cleland.—p. 225.
Nutrition Survey on Nova Scotian Island. L. B. Pett and F. W. Hanley.—p. 230.
Vitamin C Content of Diets of Lower Income Toronto Families. Elizabeth C. Robertson and Margaret E. Galloway.—p. 236.
Novocain in Abdominal Surgery. H. F. P. Grafton.—p. 240.
Tocopherol (Vitamin E) Therapy in Sclerosis of Legs with Ulcer. J. F. Burgess and J. E. Pritchard.—p. 242.
Spontaneous Pneumothorax. C. E. Robinson and J. E. Walker.—p. 247.
Pterygium Colli and Allied Conditions. H. O. Foucar.—p. 251.
Kirschner Wire Fixation in Fractures of Clavicle. C. B. Ripstein. —p. 255.
Biology of Metabolic Disease in Man. I. A. Mirsky.—p. 257.

Florida Medical Association Journal, Jacksonville

35:125-192 (Sept.) 1948

Medical Management of Hypertension; Review of Newer Methods of Treatment. M. Mallory Sr. and W. D. Steward.—p. 145.
War Surgery Up Front. W. C. Roberts.—p. 148.
Chronic Ulceration of Lower Leg Treated by Excision and Skin Grafting. F. H. Bowen.—p. 152.
*Influenzal Meningitis: Streptomycin Therapy; Report of 1 Case. D. F. H. Murphey.—p. 157.

Streptomycin in Influenzal Meningitis.—Murphey discusses the therapy of influenzal meningitis with special reference to streptomycin. He reports a 21 month old Negro girl treated successfully with streptomycin in conjunction with penicillin and sulfadiazine. The various therapeutic agents should be given in amounts sufficient to guard against the development of insensitive strains. Sulfonamide drugs are given in amounts from 1½ to 3 grains per pound (0.22 to 0.44 Gm. per kilogram) of body weight per twenty-four hours. The intravenous route may be employed at first, particularly in cases in which nausea and vomiting are a problem. The change to oral medication may be made as soon as this mode of therapy becomes feasible. The sulfonamide drugs should be continued for at least two weeks after the discontinuation of the other therapeutic agents in order to insure against recurrence. Type B specific anti-influenzal rabbit serum is administered intravenously only after laboratory verification of specific sensitivity of the offending organism. Streptomycin should be given both intrathecally and parenterally, preferably intramuscularly. The intraspinal dose should not exceed 0.1 Gm. in 5 to 10 cc. of isotonic sodium chloride solution, this amount replacing a larger amount of withdrawn spinal fluid. In smaller children the initial intrathecal dose of streptomycin may be restricted to 0.025 Gm., and subsequent doses, if needed, increased to 0.05 Gm. At least one intraspinal administration is regarded as advisable since streptomycin does not diffuse into the spinal fluid to a sufficient degree to assure an antibacterial level. Penicillin may be used on occasion as a therapeutic agent directed directly against the influenzal bacillus, or as a preventive of secondary infection by streptomycin-resistant organisms. The author discusses the toxic manifestations that may result from the administration of streptomycin by the various routes. He concludes that no one therapeutic agent now available can be counted on alone to combat meningitis due to Hemophilus influenzae.

Journal of Thoracic Surgery, St. Louis

17:419-572 (Aug.) 1948

*Diagnosis and Operability of Bronchiogenic Carcinoma. J. H. Gibbon Jr., L. H. Clerf, P. A. Herbut and J. J. DeTuerk.—p. 419.
*Treatment of Inoperable Bronchiogenic Carcinoma with Methyl-Bis. E. F. Skinner, D. Carr and W. E. Denman.—p. 428.
Nonmalignant Intrathoracic Lesions Simulating Bronchiogenic Carcinoma: Report of 30 Operated Cases. L. A. Brewer III, W. M. G. Jones and F. S. Dolley.—p. 439.
Improved Method of Resection of Pulmonary Segments: Report of Technic Applied in Seventy Operations. R. H. Overholt, F. M. Woods and R. H. Betts.—p. 464.
Exploratory Thoracotomy in Management of Intrathoracic Disease. J. B. Grow, M. L. Bradford and H. W. Mahon.—p. 480.
Chronic Nonspecific Suppurative Pneumonitis: Report of 10 Cases. R. D. Kershner and W. E. Adams.—p. 495.
Pulmonary Resection for Chronic Abscess of Lung. R. R. Shaw and D. L. Paulson.—p. 514.
Pulmonary Resection for Chronic Lung Abscesses. E. M. Kent and F. S. Ashburn.—p. 523.
Closed Intrapleural Pneumonolysis: Analysis of 1,000 Consecutive Operations. J. D. Day, P. T. Chapman and E. J. O'Brien.—p. 537.
Preliminary Anterior Chondrocostectomy Combined with Closed Cavity Drainage and Posterior Thoracoplasty. E. S. Wells, S. Lake and J. Gordon.—p. 555.

Diagnosis and Operability of Bronchiogenic Carcinoma.—Gibbon and his associates point out that cough, pneumonitis and pain are the earliest symptoms. Cough is also the most frequent. Sputum is a frequent but not an early symptom. Other symptoms are hemoptysis, loss of weight, dyspnea and wheeze. A positive diagnosis of bronchiogenic carcinoma prior to operation depends on microscopic examination of a piece of the tumor, which can be obtained by aspiration through a needle inserted through the chest wall into those growths which are peripherally located. This method of biopsy was not employed by the authors. It involves the danger of implantation. Bronchoscopy was done in all their cases. If the tumor cannot be seen, other suggestive evidence of neoplasm is narrowing, distortion or fixation of the trachea or bronchus. In 1946 two of the authors, Gibbon and Clerf, began to use the cytologic study of bronchoscopically removed secretions, which are aspirated through a bronchoscope from the bronchus draining the region of the suspected tumor. The material is smeared on slides and is stained by the Papanicolaou technic. When secretion cannot be obtained, 2 to 5 cc. of salt solution is introduced into the bronchus and then aspirated. The salt solution is then examined by the same technic as the bronchial secretions. One hundred and eighteen consecutive cases of carcinoma of the lung have been studied by this method. Neoplastic cells were found in approximately 90 per cent of these cases. In the same group a positive biopsy was obtained by the bronchoscope in approximately 45 per cent. Neoplastic cells were found in 43 cases in which the bronchoscopic examination was completely negative. The senior author has used these diagnostic methods in 31 patients during the past fourteen months with good results. Whenever the diagnosis is certain, an exploration should be done on all patients unless there is evidence of extension of the disease beyond the hemithorax in which the tumor lies, or unless a pleural effusion exists which is bloody or contains malignant cells. The really debatable issue, concerning whether or not exploration should be done, lies in the group with nerve palsies. Involvement of the phrenic, recurrent laryngeal or sympathetic nerves indicates an infiltrating growth which has extended beyond the confines of the lung. This does not mean that the lesion cannot be removed by block dissection including the involved nerve. When the chest is opened and all tissue involved by the growth can be removed without leaving malignant tissue behind, a radical pneumonectomy should be done. The procedure which the authors have found most effective in increasing resectability has been the intrapericardial ligation of the pulmonary vessels, as proposed by Allison.

Treatment of Bronchiogenic Carcinoma with Methyl-Bis.—Skinner and his associates employed methyl-bis (beta-chloroethyl) amine hydrochloride in the treatment of 25 patients with bronchiogenic carcinoma. Three patients had adenocarcinoma, 5 had squamous cell carcinoma and 17 had undifferentiated cell carcinoma. Seventeen of the 25 cases are considered in this report. Patients subjected to treatment with the drug were given a well balanced diet, which included 1 quart of milk daily and one generous serving of meat, fish or eggs with each meal. Amino acids orally are prescribed if indicated, and vitamins and ferrous sulfate are given. Smoking is prohibited. A follow-up history, physical examination, complete blood count, and either fluroscopic or roentgen examination of the chest are made every two weeks. Blood transfusions are used if indicated, as the compound is rather toxic to the bone marrow. The patient is hospitalized for five days and is given 0.1 mg. of methyl-bis (beta-chloroethyl) amine hydrochloride per kilogram of body weight intravenously once daily for four days. This course can be repeated every two or three months or more often if necessary. The drug must be used immediately after it is made up in solution. The action of the drug on the cancer cells and on the bone marrow is similar to that of roentgen rays. The authors present histories of 4 representative cases and state that they believe that the proper treatment of bronchiogenic carcinoma is pneumonectomy if at all feasible. If surgical treatment is not warranted because of extension of the carcinoma or of the presence of distant metastases, than a combination of injection of the nitrogen mustard compound and roentgen therapy offers the best aid.

Maine Medical Association Journal, Portland

39:217-245 (Aug.) 1948

Diphtheria. T. A. Foster.—p. 217.
Obstructing Prostate: Review of Work of Urologic Service of Maine General Hospital for 1947. C. N. Peters.—p. 218.
Surgical Diabetic: Medical Analysis of Third Series of 100 Operated Surgical Diabetics. E. R. Blaisdell.—p. 222.
Lower Bowel Cancer: Appeal for Rectal Examination Before Medication. I. M. Webber.—p. 228.
Common Diseases of Cervix and Early Diagnosis of Cancer of Cervix. T. C. Bramhall.—p. 230.
Rehabilitation of Civilian Amputee. T. A. Martin.—p. 233.

Nebraska State Medical Journal, Lincoln

33:297-328 (Sept.) 1948

Opsonocytophagic Test in Brucellosis. Grace Loveland.—p. 299.
Vaginal Fistulas. R. F. Farrell.—p. 303.
Modern Results in Cleft Palate Surgery. H. N. Boyne.—p. 306.
Report of Postmortem Findings in Patients Dying in State Mental Hospital. F. H. Tanner.—p. 309.
Calcium, Phosphorus, and Phosphatase Metabolism: Review of Series of Hospital Cases from University of Nebraska College of Medicine, Omaha, Nebraska. E. J. Kirk and D. R. Jackson.—p. 314.
Dissecting Aneurysm of Aorta: Case Report. H. J. Lehnhoff.—p. 317.

New England Journal of Medicine, Boston

239:317-352 (Aug. 26) 1948

Use of Vaginal Smear as Screening Test. H. L. Lombard, Margaret Middleton, S. Warren and Olive Gates.—p. 317.
*Severe Hypertension with Papilledema Simulating Brain Tumor: Differential Diagnosis and Treatment. R. S. Palmer, A. F. Nyssens and J. C. White.—p. 322.
*Effectiveness of Vitamin B_{12} in Combined System Disease: Rapid Regression of Neurologic Manifestations and Absence of Allergic Reactions in Patient Sensitive to Injectable Liver Extracts. L. Berk, D. Denny-Brown, M. Finland and W. B. Castle.—p. 328.
*Conditioned-Reflex Treatment of Chronic Alcoholism: Results Obtained in 2,323 Net Cases from 3,125 Admissions Over Period of Ten and a Half Years. P. O'Hollaren and F. Lemere.—p. 331.
Pregnancy Tests. S. L. Robbins.—p. 333.
Hepatoma of Liver.—p. 339.
Adenoma of Trachea, with Extension into Thyroid Gland.—p. 341.

Hypertension with Papilledema Simulating Brain Tumor.—Palmer and his co-workers direct attention to the similarity in symptoms, physical signs and spinal fluid findings between severe hypertension with papilledema and expanding intracranial lesions. They compare observations on 30 patients with severe hypertension and papilledema with those on 25 patients with expanding intracranial lesions and 15 patients with severe hypertension without papilledema. The differential diagnosis between severe hypertension with papilledema and an expanding intracranial lesion with coincident hypertension is discussed and illustrated by a report of 3 cases. The most important differential characteristic is the slow, steady progression of neurologic localizing signs in brain tumor. Proper evaluation depends on expert neurologic examination and sometimes on supplementary pneumograms. In the hands of the authors extensive sympathectomy has thus far been the measure that has relieved symptoms, reduced the papilledema and stayed the rapid progress to a fatal outcome that is almost uniform in patients with malignant hypertension. They suggest that

denervation of the splanchnic bed abolishes or minimizes the orthostatic pressor responses and thus protects the cerebral circulation.

Vitamin B_{12} in Pernicious Anemia.—Berk and his associates say that a crystalline substance, vitamin B_{12}, has recently been isolated from liver extracts and found to produce hematologic remissions in pernicious anemia. An unusual opportunity for testing the effectiveness of vitamin B_{12} on the neurologic disturbance of pernicious anemia presented itself in a patient in whom acute combined systemic disease had developed while he was receiving inadequate doses of synthetic pteroylglutamic acid. The patient also had an acquired allergic sensitivity to injected liver extracts. It was of additional interest, therefore, to determine the relation of vitamin B_{12} to this sensitivity. A hematologic remission and rapid improvement in the neurologic picture followed treatment with crystalline vitamin B_{12}. The patient, who had had severe local and systemic sensitivity reactions to purified liver extracts derived from both pork and beef, showed no reactions to vitamin B_{12}. Observations on this patient suggest that vitamin B_{12}, like the presently available injectable liver extracts, should prove effective against the neurologic as well as the hematologic manifestations of pernicious anemia. They also suggest that vitamin B_{12} is not responsible for sensitivity reactions to liver extracts.

Conditioned Reflex Treatment of Chronic Alcoholism.—The conditioned reflex treatment of chronic alcoholism employed at the Shadel Sanitarium consists, according to O'Hollaren and Lemere, in the establishment of an aversion to the sight, taste, smell and thought of all types of alcoholic beverages. This is accomplished by repeated conditioning seances. From the middle of 1935 to the end of 1945 there were 3,125 admissions for the treatment of chronic alcoholism. These 3,125 cases represented persons from all walks of life. Social status ranged from the very rich to the very poor—from the highly trained professional man to the former inmates of state institutions. Practically every type of labor, trade and profession was represented, indicating that alcoholism is no respecter of person, class or intelligence. Types of personalities varied from the well adjusted man to the more severe type of psychoneurotic. From a statistical evaluation of 2,323 cases in which treatment was given, the authors conclude that 85 per cent of patients treated by this method will remain abstinent for six months or longer; 70 per cent will remain abstinent for a year; 60 per cent will remain abstinent for two years, and 25 per cent will remain abstinent up to ten years or longer. Adjuvant forms of therapy have been used more extensively since this survey has ended. Their ultimate value, however, has as yet not been fully determined. Factors such as age, occupational stability, marital unhappiness, nervousness, history of recurrent delirium tremens and financial indolence have a definite effect on the prognosis, either favorable or unfavorable. The treatment is of benefit and it is hoped that the conditioned reflex will be utilized more widely and combined with other forms of therapy in selected cases, since it assists therapists by helping the patient remain abstinent while a program of personality and environmental adjustment is carried out.

New York State Journal of Medicine, New York

48:1871-1982 (Sept. 1) 1948

*Porokeratosis of Mibelli. L. P. Barker, W. Huber and E. S. Hallinger Jr.—p. 1909.
Syphilitic Interstitial Keratitis: Report of 103 Cases. T. N. Graham, H. H. Romaine and R. H. Rulison.—p. 1916.
*Case of Yaws in New York City. C. F. Post and C. Sheard Jr.—p 1920.
Use of Placebos in Local Therapy of Skin Diseases. E. W. Abramowitz. —p. 1927.
Pigmented Basal Cell Epithelioma. A. C. Cipollaro, W. Sachs and A. Brodey.—p. 1931.
Removal of Tattoo Marks. C. Lerner.—p. 1937.
Prodromal Symptom of Coronary Occlusion. R. E. Winter.—p. 1940.
Anesthesia in Thoracic Surgery with Special Reference to Surgery of Esophagus. S. S. Lyons.—p. 1943.
Role of Thephorin in Allergic Disorders. H. H. Gelfand.—p. 1947.

Porokeratosis of Mibelli.—Barker and his co-workers report 1 case of porokeratosis of Mibelli of eleven years' duration in a girl aged 15. For the succeeding twelve years her condition has been observed and treated at irregular intervals. The clinical and pathologic observations, from early adolescence through first pregnancy to the manifestation of characteristic lesions in a normal infant son of the patient, emphasized the chronic and hereditary aspects of the disease. A possible endocrine relationship is suggested by the rapid extension of the eruption during puberty and its recession during pregnancy. The four characteristic types of lesions of porokeratosis—i. e., plaquelike lesions, follicular keratoses, dome-shaped, papular and nodular hyperkeratoses and verrucous lesions—were originally presented, but the predominating plaquelike lesions were seen to develop from both the follicular and the papular lesions. This would indicate that the follicular and papular are the primary lesions and the plaquelike are the ultimate lesions. Vitamin A therapy, massive thyroid therapy, ultraviolet and roentgen treatment, as well as the local use of keratolytics, were equally unsatisfactory. Serial sections of biopsies taken from the lesions at various intervals revealed hyperkeratosis, parakeratosis and acanthosis; a striking degree of porokeratosis with apparent extension of the abnormal keratinization to the deep coil gland acini; plumelike columns of nucleated horny cells ("cornoid lamellae"); conical areas of peculiar alteration of epidermal cells in association with the emergence of coil glands; a complete or relative absence of hair follicles and sebaceous glands, and a striking degree of inflammatory reaction in the cutis with an associated tendency toward fibrosis. One may well be dealing in this case with an entity which belongs in a group with Darrier's disease and other diseases which represent possible dermatoses of a delayed nevoid origin.

Yaws in New York City.—Post and Sheard report 1 case of yaws in a Negro boy aged 14 whose parents were born in Martinique, French West Indies, and came to the United States six years before the birth of the patient and his twin brother. At the age of 1 year both boys were sent to Martinique to live with their paternal grandmother, and rejoined their mother in New York three months before the admission of the patient to Presbyterian Hospital. Three months before returning to the United States the patient noticed a pinhead-sized papule on the outer aspect of the left ankle. At the time the children entered the United States the lesion was still of insignificant proportions. The patient was hospitalized because the initial lesion on the leg had developed into a painful ulcer and because of general secondary eruption on favorite sites for the disease including the face, palms and soles. On the face there were numerous frambesiform lesions from 10 to 20 mm. across. The serologic reactions were positive. Dark field examinations of frambesiform lesions were positive for spirochetes morphologically indistinguishable from Treponema pallidum. The diagnosis was established on the basis of history, clinical appearance and dark field and serologic examinations. The entire background and course of the infection followed recognized descriptions of yaws. A good clinical response was obtained with a total dose of 5,600,000 units of penicillin given in fourteen days. Spirochetes disappeared from the lesion in approximately the same length of time noted by other observers. Healing of the mother yaw was delayed because of exuberant granulation tissue and active secondary infection. Martinique is one of the known endemic areas in the West Indies, but West Indies immigration data indicate that cases of frambesia will occur rarely in the United States.

Pediatrics, Springfield, Ill.

2:147-238 (Aug.) 1948

Psychotherapeutic Role of the Pediatrician. M. J. E. Senn.—p. 147.
Paranatal Factors Affecting Adjustment in Childhood. S. S. Stevenson. —p. 154.
*Para-Aminobenzoic Acid in Treatment of Rocky Mountain Spotted Fever: Report of Use in 17 Cases. S. Ross, P. A. McLendon and H. J. Davis. —p. 163.
Treatment of Tetanus: Report of 2 Cases with Critical Comment on New Therapeutic Resources. R. C. Harris, T. F. McDermott and F. L. Montreuil.—p. 175.
Fracture of Anterior Spine of Ilium: Report of 4 Cases and Discussion of Treatment. J. R. Gallagher.—p. 186.
*Poliomyelitis in Families Attacked by Disease: II. The Presence, Appearance and Persistence of Neutralizing Antibodies. H. A. Wenner and W. A. Tanner.—p. 190.
Guidance in Maternal and Infant Care Two Months Before and After Birth of First-Born. A. S. Clay.—p. 200.

Para-Aminobenzoic Acid in Rocky Mountain Spotted Fever.—After citing a previous report of 8 cases of spotted fever in which treatment was with para-aminobenzoic acid, Ross and his associates say that since then they have treated

9 additional cases. All of the 17 patients recovered. Both the morbidity and degree of toxicity were decreased. The earlier the initiation of para-aminobenzoic acid therapy, the better the response. Favorable therapeutic results can probably be expected if the administration of the drug is started before the seventh day. The optimal time for initiating treatment is during the first four days after the onset of the disease. There is no definite linear or curvilinear correlation between dosage and blood concentration. On the average, a dose of 0.9 Gm. per kilogram of body weight in twenty-four hours in a two hour divided dosage schedule was found to be satisfactory in children. Para-aminobenzoic acid causes few toxic manifestations.

Neutralizing Antibodies in Families with Poliomyelitis Patients.—Wenner and Tanner pointed out in a previous paper that whenever poliomyelitis appears in certain households all the children, and sometimes adult members, have poliomyelitis. Frequently the disease is so mild that its existence can be determined only by finding poliomyelitis virus in the stool, or, as is less readily the case, in the oropharynx. If one considers the differences in clinical response among all the members in a family in which poliomyelitis virus is widely seeded, the question arises concerning the appearance and persistence of neutralizing antibodies in these patients. In 1946 members of households were sampled to delineate the distribution of poliomyelitis virus within family units in which poliomyelitis appeared. Several members in these family units were selected for inclusion in the present study. Five of the 6 patients studied had poliomyelitis, and the sixth was a familial contact. It was found that neutralizing antibodies do appear in the serums of patients convalescent from poliomyelitis. Neutralizing antibodies, as a rule, appeared during the first ten days of illness. There is little if any fall in titer during the ensuing year. It was also evident that in some patients ill with poliomyelitis the neutralizing antibody does not reach a high level. The authors cite observations on a paralyzed patient to prove this.

Radiology, Syracuse, N. Y.

51:155-296 (Aug.) 1948

Roentgen Therapy of Carcinoma of Female Urethra and Vulva. F. Buschke and S. T. Cantril.—p. 155.
Carcinoma of Endometrium: Measurements of the Radiation Distribution Around Various Multiple Capsule Applications of Radium in Irregular Uteri. J. F. Nolan and J. P. Steele.—p. 166.
Radiation Therapy of Malignant Tumors of Testis: Long-Range Statistical Analysis with Review of Literature. T. Leucutia, W. A. Evans Jr. and J. C. Cook.—p. 177.
Treatment of Deep-Seated Malignant Tumors with Multiple-Port Technic Simulating Rotation Therapy. I. I. Kaplan and S. I. Etkin.—p. 188.
Rotation Therapy: Theory and Clinical Applications. S. J. Hawley. —p. 205.
Calcareous Pancreatitis. B. S. Epstein and I. Isaacs.—p. 214.
*Diffuse Pancreatitis Calcification: Analysis of 6 Cases. R. J. Reeves and F. T. Moran.—p. 219.
Iodinated Organic Compounds as Contrast Media for Radiographic Diagnoses: IX. Experimental Studies on Visualization of Biliary Tract. G. E. Jones, A. L. Grobowski, H. D. Robertson and others.—p. 225.
X-Ray Therapy of Boeck's Sarcoid. Charlotte P. Donlan.—p. 237.
Unilateral Ureteral Edema Complicating Radium Therapy of Carcinoma of Cervix: Case Report. W. Goux.—p. 241.
Carcinoma of Colon Simulating Carcinoma of Stomach: Report of 2 Cases. J. C. Katterjohn.—p. 245.
Kaposi's Disease: Report of Case with Unusual Visceral Manifestations. K. H. Seagrave.—p. 248.
Report of Case of Hydrometrocolpos—Congenital Dilatation of Female Genital Tract. F. R. Schell.—p. 252.
*Calcification of Ascending Aorta as Sign of Syphilitic Aortitis. R. S. Leighton.—p. 257.
Hydronephrosis Causing Displacement of Splenic Flexure. J. O. Nolan. —p. 260.

Diffuse Pancreatic Calcification.—Reeves and Moran say that recently there have come to their attention several cases presenting diagnostic problems in which the finding of disseminated calcification by the roentgenologist served to confirm the impression of pancreatic disease. They present brief histories of 6 patients with diffuse pancreatic calcification One of the patients was a man, aged 52, and another was a child of 4. The ages of the other 4 patients were between 29 and 33 years. The chief complaint in the 5 adult patients was recurrent abdominal pain of over two years' duration. Two patients gave histories of heavy consumption of alcohol and a third had previous cholelithiasis; in the others the causation was not apparent. The epigastric pain, which is usually intermittent, may be accompanied by nausea and vomiting, loss of weight, glycosuria, steatorrhea and occasionally jaundice. Diabetes mellitus is present in about one half of the cases with diffuse calcification, depending on the extent of islet damage. Lymphatic and ascending spread of infection, stasis, and regurgitation from the biliary tract may be factors contributing to the development of pancreatic calcification. The diagnosis can be made easily with the aid of roentgenography. On a roentgenogram of the abdomen the calcium can be seen to conform to the pattern of the pancreas. Involvement may be limited to the head, tail or body. When not so diffuse, the calcification may present a problem in differential diagnosis. In such cases a lateral roentgenogram is of considerable assistance. Cholecystography or pyelography may be necessary to rule out gallstones and stones in the kidney. Surgical treatment includes removal of localized concretions, partial and complete pancreatectomy and celiac ganglionectomy for relief of pain.

Calcification of Ascending Aorta in Syphilitic Aortitis.—Leighton investigated the serology and clinical cardiac findings in several cases showing calcification in the ascending aorta on routine admission chest roentgenograms. These patients were found to have positive Wassermann reactions and in 1 case definite aortic insufficiency. Calcification of the ascending aorta was detected in 9 of 18 cases of syphilitic aortitis without aneurysm, proved at necropsy. There were 39 cases in which the diagnosis of syphilitic aortitis had been made at the University Hospital or the Minneapolis General Hospital. Of these, 21 showed the calcification in question. In 4 of the 21 there were aneurysms of the aorta; the remaining 17 cases, or 43 per cent of the total number, showed calcification. Of the total number 66 per cent had positive Wassermann reactions. For the purpose of control, four hundred roentgenograms of the chest were examined. These were consecutive cases drawn from a routine file. Calcification of the ascending aorta was found in 2 cases in this control group, an incidence of 0.5 per cent.

Southern Medical Journal, Birmingham, Ala.

41:761-860 (Sept.) 1948. **Partial Index**

Value of Radical Operation for Carcinoma of Penis. P. B. Hudson, J. F. Cason and W. W. Scott.—p. 761.
Selection of Treatment in Advanced Carcinoma of Rectum: Improvement in Surgical Technic. R. L. Clark Jr.—p. 765.
Large Ovarian Cyst: Case Report. J. W. Nixon and W. A. Wichern Jr. —p. 774.
Extragenital Granuloma Venereum: Report of 6 Cases of Lip, Oral and Cutaneous Involvement with Review of Literature. C. B. Hanna and H. R. Pratt-Thomas.—p. 776.
Pseudoxanthoma Elasticum as Disseminated Disease. S. T. R. Revell Jr. and T. N. Carey.—p. 782.
Removal of Orbital Tumor Through Inferior Route with Kuhnt-Szymanowski Repair of Ectropion. A. Callahan.—p. 790.
Pediatrics: Changing Concepts and Responsibilities in Practice. W. W. Quillian.—p. 793.
Pediatric Proctology. C. G. Mentzer.—p. 798.
Observations on Pre-Eclampsia, Eclampsia and Hypertensive Vascular Disease in Pregnancy. R. A. Ross, F. B. Carter, S. S. Lambeth and R. N. Creadick.—p. 803.
Some Aspects of Habitual Abortion. E. Delfs and G. E. S. Jones. —p. 809.
Study of 710 Complete Lacerations Following Central Episiotomy. D. F. Kaltreider and D. McC. Dixon.—p. 814.
*Vinbarbital Sodium for Obstetric Amnesia, Analgesia and Anesthesia: Report of 3,000 Cases. M. S. Lewis and J. B. Boddie Jr.—p. 820.
Saddle Block Anesthesia for Delivery: Report of 1,000 Cases. C. L. Jorgensen, J. H. Graves and J. E. Savage.—p. 830.
Mortality of Appendical Perforation. E. S. Stafford and H. W. Scott Jr.—p. 834.
Value of Toxicologic Examinations in Postmortem Investigation. H. C. Freimuth.—p. 838.

Vinbarbital Sodium in Obstetrics.—Vinbarbital sodium is sodium-5-ethyl-5-(1-methyl-1-butenyl) barbiturate. Lewis and Boddie review observations on 3,000 cases in which they used this substance for the induction of amnesia, analgesia and anesthesia during labor. Two thousand, four hundred and forty-four received vinbarbital sodium orally in combination with scopolamine and, in addition, vinbarbital sodium intravenously for the completion of labor. The average dose was 9 grains (0.59 Gm.) and 10 grains (0.65 Gm.) intravenously. Spontaneous delivery occurred in 1,475, or 51 per cent. Of the operative deliveries, 1,331, or 86.4 per cent, were elective outlet forceps; 144 were breech extractions; 54 were midforcep deliveries, and 7 were versions. Of the 2,978 infants born alive,

80.9 per cent breathed and cried spontaneously; 12.6 per cent were slightly asphyxiated, and required only carbon dioxide and oxygen for resuscitation; 5.4 per cent were moderately asphyxiated, and required tracheal catheterization in addition to carbon dioxide and oxygen; 0.9 per cent were greatly asphyxiated, and required tubbing in addition to the aforementioned procedures. Vinbarbital sodium appeared to have no effect on the duration of labor. After the intravenous administration of vinbarbital sodium, the uterine contractions were accelerated and dilatation progressed rapidly in the majority of cases. It was equally effective in spontaneous and operative deliveries. The "screaming" parturient who is nearing the end of her labor can be rapidly and effectively calmed with intravenous administration of vinbarbital sodium. Mild to moderate degrees of restlessness occurred in 2 3.4 per cent. All were promptly controlled by intravenous administration of additional vinbarbital sodium. Complete amnesia was obtained in 70 per cent of all patients who received vinbarbital orally with scopolamine. Complete amnesia was obtained in 99 per cent after intravenous administration of vinbarbital sodium. The incidence of postpartum hemorrhage was not increased. The majority of patients slept soundly for one to eighteen hours following delivery. All expressed a desire for the same method of analgesia and anesthesia for their future deliveries. The results obtained indicated that vinbarbital sodium is a most satisfactory agent for the induction of obstetric amnesia, analgesia and anesthesia.

Surgery, Gynecology and Obstetrics, Chicago

87:257-384 (Sept.) 1948

Evolution and Treatment of Tuberculosis of Hip. I. Ponseti.—p. 257.
Portacaval Anastomosis. A. H. Blakemore.—p. 277.
Physiology of Fecal Continence. E. A. Gaston.—p. 280.
*Surgery in Bleeding Peptic Ulcer: Urgent Operation and Principle of Exclusion. R. Warren and T. H. Lanman.—p. 291.
Routine Use of Operative Cholangiography. P. F. Partington and M. D. Sachs.—p. 299.
Atraumatic Low Thigh Amputation: Further Modification of and Experiences with Technic. F. Pearl.—p. 308.
Experimental Approach to Problem of Increasing Blood Supply of Lungs: Preliminary Observations on Use of Plastics. E. S. Hurwitt.—p. 313.
*Celiac Syndrome: VII. Therapy of Meconium Ileus; Report of 8 Cases with Review of Literature. R. B. Hiatt and P. E. Wilson.—p. 317.
Carcinoma of Bladder with Bone Metastases: Report of 8 Cases. H. L. Kretschmer and J. H. McDonald.—p. 328.
Place of Surgery in Emergency Treatment of Acute Massive, Upper Gastrointestinal Hemorrhage. S. O. Hoerr, J. E. Dunphy and S. J. Gray.—p. 338.
Five Year End-Results of Irradiation Therapy of Cancer of Cervix Uteri at Memorial Hospital. E. W. Munnell and A. Brunschwig.—p. 343.

Surgery in Bleeding Peptic Ulcer.—Warren and Lanman say that under current methods of conservative treatment, 1 or 2 of every 20 patients admitted with massive hemorrhage from peptic ulcer will die. These patients establish a need for surgery in the treatment of bleeding peptic ulcer. The mortality following surgical treatment seems to be directly dependent on the degree of exsanguination at the time of operation. The authors have found it useful to separate operations done during different phases of exsanguination into three categories; namely, emergency, urgent and elective. Of the 54 patients with bleeding from peptic ulcers observed by the authors, 29 had massive hemorrhage; the erythrocyte count was less than 3,000,000. In 10 of 20 who bled rapidly, the hemorrhage continued or, having stopped, it recurred. Four of these 10 were over 45 years of age and were operated on. Their postoperative courses were satisfactory and there were no deaths. One of these 4 patients operated on had a small duodenal ulcer of the anterior wall. A subtotal gastric resection with excision of the duodenal ulcer was performed. In the other 3 cases the ulcers were of the posterior penetrating variety and had eroded large arteries. Each ulcer was treated by exclusion. Since they presented three different problems in technical management which call for exclusion rather than excision, they are reported in detail. The authors stress early "urgent" operation for all patients with massive hemorrhage from peptic ulcer who are over 45 years and in whom the hemorrhage persists after forty-eight hours following admission to the hospital or, having stopped, recommences. Subtotal gastrectomy with removal of the lower two thirds of the stomach, including the pylorus, should be the surgical plan for these patients. In those patients in whom the ulcer is technically difficult to remove, a subtotal gastrectomy with exclusion, but not removal, of the ulcer is advocated. In patients with a large inflammatory mass involving pylorus and duodenum, a two stage subtotal gastrectomy as described by McKittrick should be done.

Celiac Syndrome and Meconium Ileus.—Hiatt and Wilson summarize all the previously reported and 15 hitherto unreported cases of association of meconium ileus with pancreatic cystic fibrosis. Eight patients among the total of 26 have been admitted to Babies Hospital in New York during the past two years. These 8 cases are described. The removal of obstructing meconium was accomplished by irrigation through an ileostomy wound and milking out of bulky masses. In 5 cases there was an association volvulus of a loop of ileum, presumed to result from excessive writhing of elongated and hypertrophied coils of small gut proximal to the obstructing inspissated meconium. In 4 of these cases the volvulus was corrected by simple unwinding. In all 8 cases associated cystic fibrosis of the pancreas existed. The authors believe that pancreatic insufficiency underlies all instances of meconium ileus. The history of pancreatic fibrosis or of meconium ileus in a sibling supports the preoperative diagnosis of meconium ileus in a newborn infant with intestinal obstruction. Of the 5 children surviving operation, only 1 has contracted chronic pulmonary disease; up to the present three children have developed normally. Since children with fibrocystic disease of the pancreas require a high vitamin intake, particularly the vitamins of the fat-soluble group, these children were given high doses of vitamins and continue to receive them. To compensate for absence of pancreatic function, pancreatin was given. The special diet, the added vitamins and the pancreatin will always be required by the children, for the pancreas is not expected to resume function and the intolerance to fats will remain. At the present time, twenty-six months after operation in the first 2 infants surviving and fifteen months postoperatively in the third survivor, these 3 children are alive and well.

Virginia Medical Monthly, Richmond

75:435-490 (Sept.) 1948

Use of Early Rising and Early Ambulation Following Surgical Operations. H. C. Lee.—p. 435.
Recent Trends in Obstetrics. B. D. Jones Jr.—p. 444.
*Use of Vitamin E in Menopausal Syndrome. H. E. Ferguson.—p. 447.
Significance of Paralysis of the Larynx and Its Surgical Correction in Bilateral Cases. F. D. Woodward.—p. 449.
Psychosomatic Medicine. J. F. Williams.—p. 452.

Vitamin E in Menopausal Syndrome.—Ferguson says that although hormones are extremely helpful if used correctly they can produce undesirable reactions. In searching the literature the author found Christy's report, which discusses the possibilities of vitamin E in menopausal problems, and the work of Hain, a British writer, on the study of vitamin E in the control of flushes as contrasted to the use of estrogens. The 66 patients treated by the author were chosen because they could be relied on in giving accurate data. A preparation containing 5 mg. of alpha-tocopherol was given twice daily, after meals, by mouth for six weeks and then once daily until discontinued. In the stubborn cases vitamin E was administered also once every week by intramuscular injection until the symptoms began to abate, and then the injections were discontinued and only the oral therapy was used. Occasionally the injections had to be reinstituted. In one group of 26 patients, 22 obtained complete relief in five to eight months, while the other 4 obtained no relief from vitamin E therapy, but did get some from estrogenic therapy. In the second group of 40 patients 37 received complete relief in five to eight months, 1 after twelve months, and the other 2 received no relief from either vitamin E or estrogenic therapy. The author believes that vitamin E has demonstrated its effectiveness, although its mode of action is not understood as yet. It does not induce carcinogenic cellular action, which is sometimes thought to be aggravated by estrogenic hormones.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted. Single case reports and trials of new drugs are usually omitted.

Biochemical Journal, London

42:481-640 (No. 4) 1948. **Partial Index**

Preparation and Antibacterial Action of Compounds Structurally Related to Glutamic Acid. Their Application in Microbiologic Determination of Small Quantities of Glutamine. J. A. Roper and H. McIlwain.—p. 485.
Distribution of Acid-Soluble Phosphates in Fatty Liver. A. H. Ennor and L. A. Stocken.—p. 549.
Estimation of Creatine. A. H. Ennor and L. A. Stocken.—p. 557.
Estimation of Suramin in Plasma. J. C. Gage, F. L. Rose and Mary Scott.—p. 574.
Sexual Differences in Storage and Metabolism of Iron. E. M. Widdowson and R. A. McCance.—p. 577.
Biochemistry of Bacterial Toxins. Marjorie G. Macfarlane.—p. 587.
Hydrochloric Acid Production by Isolated Gastric Mucosa. R. E. Davies.—p. 609.
Production of Ulcers in Isolated Frog Gastric Mucosa. R. E. Davies and Norah M. Longmuir.—p. 621

British Journal of Industrial Medicine, London

5:107-174 (July) 1948

Disabled Persons (Employment) Act, 1944: Some Medical Implications. W. Taylor.—p. 107.
Poisoning by Methyl Mercury Compounds. A. Ahlmark.—p. 117.
Pneumoconiosis of Coal-Miners: Study of the Disease After Exposure to Dust has Ceased. Alice Stewart, Idris Davies, Lynette Dowsett and others.—p. 120.
*Health of Plumbago Workers in Ceylon. W. L. P. Dassanayake.—p. 141.
*Diatomaceous Earth Silicosis. E. C. Vigliani and G. Mottura.—p. 148.

Health of Plumbago Workers.—Dassanayake says that Ceylon plumbago is considered indispensable for the manufacture of crucibles for metallurgical use. It is also used for paints, pencils and lubricants and in the electrocarbon industries. In 1945 the wages board for the plumbago trade directed the Ceylon Commissioner of Labor to inquire into the health of plumbago workers. Plumbago is found in deposits between solid granite rock. With the exception of six mines, all are worked within 100 feet of the surface. The three best managed mines are worked from 500 to 1,500 feet below the pit head. In these modern machinery and electricity are used. To prevent a dust hazard, the "wet system" is used in various work processes. Lung disease is rare among underground miners. Fifty persons who had worked for over ten years as underground miners were examined roentgenologically and roentgenograms in 4 persons showed diffuse fibrosis of the lungs. The general health of persons employed in plumbago mining is satisfactory. Sixty-two persons employed in plumbago curing sheds, where there is a greater dust hazard, were examined clinically and roentgenologically. Clinically, only 33 persons showed normal lungs. Roentgenologically, 51 persons showed abnormalities varying from fine striation to gross disease. Lung abnormalities seem to increase with increasing length of service in plumbago curing. The workers incur a considerable dust hazard in comparison with the miners in the plumbago mining industry. No protective measures are used by the plumbago curers to safeguard them from the dust hazard.

Diatomaceous Earth Silicosis.—According to Vigliani and Mottura, diatomaceous earth or diatomite is used for a great variety of industrial purposes, including dynamite, refractory bricks, filters and as an insulating material. Tripoli is valuable for polishing metals and precious stones. The authors have observed cases of advanced silicosis caused by inhalation of diatomite dust among workers employed in the manufacture of filter candles. Workers in two factories making filter candles (basically similar to Chamberland and Berkefeld candles) who had worked in the turning department for more than one year were given roentgen and physical examinations in 1944, and from then on once a year. Out of 20 workers roentgenologically examined in the two factories, 13 were silicotic; of these, 7 were in an advanced stage and 1 had open tuberculosis. From 1944 to date, 2 workers have died, one of silicotuberculosis and the other of silicosis; several became incapacitated and were obliged to leave work; 6 were pensioned. The most important features of the ignited diatomite dust silicosis appear to be: (1) rapid development and severe course of the silicosis; (2) a tendency to general wasting in the advanced stages of the disease; (3) tendency to spontaneous pneumothorax, owing to the presence of numerous emphysematous subpleural blebs, especially in the apex, and (4) absence of a typical nodular stage as seen in classical simple silicosis. The fibrosis set up by diatomaceous earth seems more diffuse than nodular. The reason for the difference between the mild silicosis observed among the crude diatomite workers and the malignant silicosis observed among the ignited diatomite workers lies in the fact that the ignition at 1250 C. transforms the amorphous silicon dioxide of the crude diatomite earth into microcrystalline cristobalite.

British Medical Journal, London

2:365-408 (Aug. 21) 1948

*Tubercles of Choroid. R. S. Illingworth and T. Wright.—p. 365.
Occupational Skin Lesions Due to Pitch and Tar. P. Ross.—p. 369.
Observations on Tuberculous Meningitis in Childhood: with Special Reference to Early Diagnosis. W. S. Craig.—p. 374.
*Stainless Steel Wire for Closing Abdominal Incisions and for Repair of Hernia. A. L. Abel and A. H. Hunt.—p. 379.
"Mushroom" Poisoning Due to Amanita Phalloides. D. Lewes.—p. 383.
Treatment of Genu Valgum: Discarded Iron. H. A. Brittain.—p. 385.
Case of Skin Sensitization to Streptomycin. C. Stringfellow.—p. 387.

Tubercles of Choroid.—Illingworth and Wright report 60 patients aged less than 14, 42 with miliary tuberculosis with or without meningitis and 18 with tuberculous meningitis. Choroidal tubercles were observed in 25 (60 per cent) of the first group and in only 1 patient of the second group, in which there was no miliary spread. Of 5 adult patients with miliary tuberculosis with meningitis, choroidal tubercles were observed in 3. Choroidal tubercles are therefore of great diagnostic value in cases of miliary tuberculosis; they may establish a definite diagnosis before a roentgenogram of the chest or a lumbar puncture has been performed. In 9 cases necropsy revealed miliary tubercles which had not been detected by roentgenograms of the chest. In tuberculous meningitis miliary spread can be excluded only at necropsy. In no cases were choroidal tubercles observed merely as a terminal phenomenon. In 20 patients with choroidal tubercles well defined and definite changes were observed in these tubercles. As time passes the margin of the tubercles becomes more definite, the tubercle enlarges, the center becomes paler and the tubercle and the surrounding area become stippled with pigment. In the final stage there is a parchment-white scar with heavy surrounding pigmentation and paling of the adjacent choroid. In 8 patients in whom in spite of prolonged treatment with streptomycin the choroidal turbercles failed to progress beyond the early intermediate stage, death occurred in 5 and in the remaining 3 the response to treatment was unsatisfactory. The 3 patients in whom the tubercles progressed to the final or healed stage were apparently cured. Choroidal tubercles were observed in 4 additional cases of tuberculosis in children in which there was no meningitis or evidence of miliary spread. In 1 of these cases a solitary choroidal tubercle was seen to pass through all the stages to the final or healed stage. It seems possible that careful examination of the fundi of all patients with primary tuberculosis will, in some, reveal choroidal tubercles.

Stainless Steel Wire for Abdominal Incisions.—In Abel and Hunt's ten years' experience the use of stainless steel wire makes the closure of large abdominal incisions a clean procedure which is completely secure. It eliminates the risk of postoperative disruption and herniation. No such complication has occurred in over 2,500 consecutive major laparotomies, a large number of which were for malignant disease of the alimentary canal. Its use has been accompanied by a considerable reduction in the incidence of infection. Skin scars are neater. Early postoperative ambulatory treatment may be practiced with great confidence, and with the concomitant benefits of a reduced incidence of distension and of pulmonary and vascular complications. The use of stainless steel darns in the repair of hernial orifices has simplified the operation. Any hernia, however large the defect, can be repaired by this method. The closure seems to be more secure than by any other method. There was no recurrence in over 300 cases in nearly five years. The strong, smooth,

fine, innocuous filament of stainless steel is the best material for the closure and reinforcement of fibromuscular planes. It must be used correctly, without tension, without strangulation of the tissues and without kinking of the wire.

Journal of Bone and Joint Surgery, London

30-B:405-578 (Aug.) 1948

Infections of Hand. J. B. Loudon, J. D. Miniero and J. C. Scott. —p. 409.
Traumatic Dislocation of Hip Joint: Review of 101 Dislocations. J. R. Armstrong.—p. 430.
Denervation of Hip Joint in Osteoarthritis. J. D. Mulder.—p. 446.
Treatment of Pathologic Dislocation of Hip Joint after Suppurative Arthritis in Infants. A. F. Bryson.—p. 449.
Fracture-Subluxations of Shoulder. T. J. Fairbank.—p. 454.
Dislocation and Fracture-Dislocation of Pelvis. F. W. Holdsworth. —p. 461.
*Causalgia: Diagnosis and Treatment. C. H. Cullen.—p. 467.
Positive Pressure in Arthrodesis of Knee Joint. J. C. Charnley.—p. 478.
Conservative Treatment of Sciatic Pain by Immobilization in Plaster Jacket. F. C. Durbin.—p. 487.
Bone Lengthening. F. G. Allan.—p. 490.
Arthrodesis of Ankle Joint: Experiences with Transfibular Approach. J. C. Adams.—p. 506.
Nailing the Femoral Neck by Simple Method. V. J. Kinsella.—p. 512.

Causalgia.—Cullen's report is based on 24 cases. He is of the opinion that the typical syndrome of causalgia develops only when the median or internal popliteal nerves are injured. He doubts whether pain associated with injury in the peripheral part of the limb, or of the brachial plexus, should be classed as causalgia. Procaine hydrochloride block of the sympathetic ganglions is important as a diagnostic method. Twenty-three injections of procaine hydrochloride were made in 17 of the author's patients. Of these, 8 were treated subsequently by sympathectomy and 9 by radiotherapy. No permanent benefit from procaine hydrochloride injection was observed. After sympathectomy, 7 patients were relieved of all pain at the end of one year; 1 complained of occasional pain in the ring finger. The improvement in these was maintained for two years after operation. Roentgen therapy alone was used in 7 patients, 3 with brachial plexus lesions and 4 with median and other peripheral nerve lesions. Two of the 3 patients with brachial plexus lesions were almost free from pain after two years and suffered pain only on excitement or exposure to cold. One showed no definite improvement and has since been treated by tractotomy. In all 4 patients with lesion of the median or peripheral nerves there was steady improvement over two years. The result was less satisfactory after roentgen therapy than after sympathectomy. While these patients were able to carry on with their work, they were still liable to mild recurrences of pain as the result of excitement, loud noises or exposure to cold. Of the remaining 9 patients, 1 was treated by alcohol injections with incomplete relief. Of 3 who were treated by neurolysis with periarterial sympathectomy in 2 and arterectomy in 1, only 1 showed slow improvement over two years which did not appear to be related to the operation. Four patients with mild causalgia received simple physical therapy including wax baths, galvanism and massage. Physical therapeutic treatment is not tolerated in cases of severe causalgia.

Journal of Hygiene, London

46:117-238 (July) 1948. **Partial Index**

Combined Pertussis-Diphtheria Prophylactic Antigens: Experimental Study to Determine the Specific Immunizing Value of These Antigens Used in Combination. D. Ordman and E. Grasset.—p. 117.
Some Observations on Reaction Between Horse Serum and Pool of Rabbit Antihorse Serum: I. Relative Inhibitory Effect of Excess Antigen and Excess Antiserum. G. R. E. Naylor.—p. 129.
Food-Borne Outbreak of Streptococcal Infection. P. C. Reynell.—p. 148.
Outbreak of Gastro-Enteritis Due to Salmonella Derby. Rose Mushin. —p. 151.
Outbreak of Typhoid Fever in Middle East. E. S. Anderson and H. G. H. Richards.—p. 164.
Submarine Escape Breathing Air. K. W. Donald, W. M. Davidson and W. O. Shelford.—p. 176.
Formation of Cyanogen Chloride During Chlorination of Certain Liquids: Toxicity of Such Liquids to Fish. L. A. Allen, N. Blezard and A. B. Wheatland.—p. 184.
Absorption of Fat During Consumption of Diets Rich in Whole-Grain and White Breads. A. R. P. Walker.—p. 194.
Dietary and Clinical Survey of Pregnant Women with Particular Reference to Toxemia of Pregnancy. W. Hobson.—p. 198.

Journal of Mental Science, London

94:513-700 (July) 1948. **Partial Index**

Post-Hypoglycemic Encephalopathy in Sakel's Insulin Treatment. A. M. Spencer.—p. 513.
Posterior Cuts in Prefrontal Leukotomy: Clinico-Pathological Study. A. Meyer and T. McLardy.—p. 555.
Psychiatric Review of 50 Cases of Gunshot Wounds Self-Inflicted. R. F. Fidler.—p. 565.
Results of Treatment of Thousand Cases of Schizophrenia. L. A. Finiefs. —p. 575.
Observations in Electrically-Produced Epileptic Convulsions. Part I. Tonic Neck and Labyrinthine Reflexes upon the Eyes. R. Klein and D. F. Early.—p. 581.
Periodic Catatonia. J. S. B. Lindsay.—p. 590.
Misinterpretation of Mirror Image of Self in Presenile Cerebral Atrophy. R. E. Hemphill.—p. 603.
Ephedrine Treatment of Nocturnal Enuresis. G. de M. Rudolf.—p. 629.
Lung Abscess Following Electro-Convulsive Therapy: Description of Case. H. Conway and H. Osmond.—p. 653.

Lancet, London

2:241-280 (Aug. 14) 1948

Aftercare of the Aged Sick. E. N. Thomson and M. Curran.—p. 241.
Some Medical Uses of Polythene with Special Reference to Venoclysis in Infants. J. W. Farquhar and I. C. Lewis.—p. 244.
Pulmonary Tuberculosis in the Old. F. J. Hebbert.—p. 247.
*Refrigerated Autogenous Skin Grafting: Review of 50 Cases. A. E. Flatt.—p. 249.
Student Health Service. R. E. Verney and R. F. Robertson.—p. 251.
Acute Benign Dry Pleurisy: Six Cases in Hospital Staff. J. D. Gray and F. S. Carter.—p. 254.
Preparation of Streptococcal Extracts for Lancefield Grouping. W. R. Maxted.—p. 255.
Renal Tumour and Persistent Fever: Report of Case. L. Zádor.—p. 256.

Refrigerated Autogenous Skin Grafting.—Flatt reports results of fifty applications of refrigerated grafts stored and applied to both "clean" and infected granulating areas. The fifty applications of skin were performed on 17 patients. Thirty applications were made on 10 patients for thermal, electric or roentgen ray burns; fourteen applications were made on 4 patients for failed Thiersch grafts; five applications were made in 2 patients for traumatic full thickness skin loss and one application was made in a patient with varicose ulcer. It was found that the shorter times of storage yielded a higher percentage take, but even the longer times of storage yielded a satisfactory take. The skin was usually used for grafting within the first three weeks of storage, but the occasional use of skin stored after this period proved satisfactory. The thinner the graft the more rapidly it became vascularized from beneath. The thicker split skin grafts usually separated into two layers, a lower adherent layer and an upper layer which separated with the tulle gras on which the graft was spread. The results tend to substantiate the views of other writers that refrigerated grafts possess an increased vitality. The patients have in many instances been saved repeated operations and had their hospital stay shortened by having skin available at the times at which the recipient area became suitable for grafting.

Tubercle, London

29:169-196 (Aug.) 1948

What is Silicosis? P. Heffernan.—p. 169.
*Differential Diagnosis of Tuberculous Cervical Adenitis. H. Bailey. —p. 174.

Differential Diagnosis of Tuberculous Cervical Adenitis.—Bailey mentions the various conditions that have been referred to him as tuberculous cervical adenitis. These included: branchial cyst, acquired branchial fistula, deep cavernous hemangioma of the neck, thyroglossal cyst, adenoma of the pyramidal lobe of the thyroid, thyroglossal fistula, dermoid cyst in Burns' space, Hodgkin's disease, carotid body tumor, enlargements of the preauricular lymph node, mixed parotid tumor, preauricular ulcer, tumors of the submaxillary salivary gland, syphilis, actinomycosis, swellings of the subclavicular fossa, staphylococcic infections and streptococcic and other pyogenic infections. There were always cases of cervical lymphadenopathy that have subsided under expectant treatment. A proportion of these, especially those in children, probably never were tuberculous. The astute clinician, when seeing a child with subacute inflammation of the cervical lymph nodes, will realize that the infection may

or may not be tuberculous and will reexamine the child at weekly or fortnightly intervals. Many will perform a patch test early in the period of watchful observation, and when the test is positive it is unlikely that a doubtful mass is nontuberculous.

Acta Medica Scandinavica, Stockholm

131:1-94 (July 12) 1948. **Partial Index**

Nephrectomy in Hypertension and Unilateral Renal Disorder: Survey and 2 Cases; 1 Resulting in Decreasing Blood-Pressure but Persisting Tendency to Angiospastic Encephalopathy. P. Effersøe.—p. 10.
*On Treatment of Actinomycosis with Sulfonamide Drugs and Penicillin: Report of Successfully Treated Case of Pulmonary Actinomycosis. C. A. Adamson and G. Hagerman.—p. 23.
*Erythema Exudativum Multiforme: Clinical Picture. H. J. Ustvedt. —p. 32.
Mediastinitis Anterior Chronica. A. J. M. Lohman.—p. 51.
Titration of Serum with Mercuric Chloride Especially in Liver Affection. T. Grinsted.—p. 66.
Vitamin Deficiencies After Prolonged Treatment with Penicillin. L. Mosonyi and Elisabeth Oblatt.—p. 82.

Sulfonamide Drugs and Penicillin in Actinomycosis.—Adamson and Hagerman review a small number of cases of pulmonary actinomycosis with improvement or cure following treatment with sulfonamide drugs which have been described in the literature. Of later years, some few cases of actinomycosis treated with penicillin have been recorded. The authors report a man, aged 40, who in March 1945 presented symptoms of acute pneumonia, which did not respond to treatment with sulfonamide drugs. Roentgenograms of the chest taken in March, April and May showed slight improvement of exudation and parenchymatous lesions. He was discharged from the hospital in May, but continued to complain of pain in the chest and was again hospitalized in July with a tender swelling at the right side of the chest, which failed to yield fluid on puncture. Later it increased in size and contained pus and granular debris. Actinomycosis was suspected, but could not be verified. Treatment with penicillin was begun. In November he was again hospitalized, because a sinus had developed, and now actinomyces were demonstrated in the material taken from the sinus tract. The patient was treated with penicillin, 250,000 units daily given over four months, and with 8 to 10 Gm. of a sulfonamide combination preparation and with 25 Gm. of urea per day. The effect of this treatment was dramatic. The patient was still perfectly well eighteen months after termination of treatment and failed to show indications of recurrence.

Erythema Exudativum Multiforme: Clinical Picture.—Ustvedt reports the first part of an extensive study on erythema exudativum multiforme. The material includes 219 cases of erythema exudativum multiforme; 80 presented at the same time lesions of the mucous membranes, and 55 showed in addition a typical erythema multiforme, and also tender nodules on the legs resembling those seen in erythema nodosum. The age distribution curve shows a maximum in the ages from 20 to 40 years. The males were in the majority up to 20 years; the females were decidedly in the majority in the other age groups. In cases in which there were lesions of the mucous membrane there were about as many females as males, whereas in the group with combined erythema multiforme and erythema nodosum 95 per cent were females. In 22 per cent one or more recurrences had taken place, more often in cases with lesions of the mucous membranes (40 per cent), than in the combined group (2 per cent). Prodromal symptoms, chiefly pains in the joints, on the contrary were more frequently found in the latter group. In 3 cases the clinical picture of primary, atypical pneumonia was observed. The stomatitis corresponds to what is seen in aphthous stomatitis. In cases in which there were lesions of the mucous membranes the eye defects always corresponded to catarrhal, bullous or purulent conjunctivitis, whereas in the group with combined erythema multiforme and erythema nodosum episcleritis was found in the half of the cases with ocular lesions. Transitory proteinuria was noted in 16 cases; acute hemorrhagic nephritis in 1. In 7 cases symptoms of the nervous system appeared, with 1 case of polyradiculoneuritis and 1 case of choriomeningitis. One case had a fatal issue. The sedimentation rate showed in 23 of 179 cases values above 100 mm. after one hour. High figures were especially characteristic of the cases with combined erythema nodosum and erythema multiforme.

Deutsche medizinische Wochenschrift, Stuttgart

73:265-304 (July 16) 1948. **Partial Index**

Pernicious Insulinism: Report on 2 Cases Operated on for Insuloma. G. Katsch.—p. 271.
Spontaneous Hypoglycemia and Island Tumor of Pancreas. E. Derra and C. Schmidt.—p. 274.
*Fatal Hypoglycemia in Diabetic Patients as Sequel of Chronic Malnutrition. H. Wendt and R. Arnold.—p. 278.
*Desoxycorticosterone Acetate in Treatment of Adrenal Insufficiency: Results and Methods. F. Heni.—p. 282.
Virilizing Tumor of Adrenal Cortex Containing Bone Marrow Demonstrated by Means of Pneumoperitoneum. M. Gülzow.—p. 287.
Cushing's Syndrome Caused by Primary Carcinoma of Adrenal Cortex. H. Pickert.—p. 289.

Fatal Hypoglycemia in Diabetes Resulting from Malnutrition.—Wendt and Arnold report 1 case and review observations on 4 other cases of diabetes in which there was exposure to shortage of insulin and to severe malnutrition. The patient whose case is reported died of hypoglycemic coma and necropsy revealed atrophy of the pancreas with cirrhosis and extensive atrophy of the island apparatus, bronchopneumonia in both lower lobes and complete disappearance of fat tissue from the adrenal cortex. All of the patients had severe diabetes and were treated with insulin for years. The general condition, particularly the state of nutrition, was extremely poor; weight deficiency was as much as 21.6 Kg. (48 pounds); some presented severe hunger edema. All had severe attacks of hypoglycemia. Although the infusion of dextrose increased the blood sugar, it did not counteract the coma. All of these cases were observed during the period when starvation was greatest. The authors point out that the hypoglycemia attacks observed in these severely undernourished diabetic patients resemble the conditions which Houssay and his associates observed in dogs with pancreatic diabetes in which the hypophysis had been removed. The hypoglycemia attacks are caused by disturbances in the diencephalohypophysial system, which in turn are the result of inanition. The adrenals also seem to be involved.

Desoxycorticosterone Acetate in Adrenal Insufficiency.—Heni in reviewing the present status of treatment of adrenal insufficiency points out that the different substances that have been isolated from the adrenal cortex can be classed into three groups: 1. Desoxycorticosterone and its acetate influence chiefly the electrolyte and water exchanges. 2. The so-called corticosterones influence chiefly the carbohydrate metabolism, and the 17-hydroxycorticosterone exerts an effect on the elimination of sodium chloride. The author is concerned with therapeutic application of desoxycorticosterone, the only substance available to him for treatment of adrenal insufficiency. He reviews observations on 21 patients and cites experiences of other observers. The dosage, the intramuscular injection, the perlingual administration and particularly the subcutaneous implantation of tablets are evaluated. The author used the latter method on 8 patients and found that the effect of the implantation of 100 mg. tablets persisted for seven to twelve months, averaging about eight months. The progressing adrenal insufficiency gradually involves other incretory organs by way of the hypophysis. Thus treatment of adrenal insufficiency should not be limited to substitutional adrenal cortex therapy. It is advisable to supplement it by administration of extracts of the anterior hypophysis and at least temporarily by estrogenic or androgenic substances.

Klinische Wochenschrift, Heidelberg

26:417-448 (July 15) 1948. **Partial Index**

*Relationship Between Hypernephroma and Hypertension and Function of Kidney. H. Bohn.—p. 417.
Amino Acid Contents of Blood Serum with Particular Consideration of Albumin Deficiency. G. Herrnring and S. Borelli.—p. 420.
Infection of Young Erythrocytes by Plasmodium Vivax: First Report. E. Thonnard-Neumann and W. Stahlmann.—p. 423.
Short Report on Possibility of Control of Artificial Hypoprothrombinemia with Glycocoll-Ascorbic Acid-Calcium Preparation ("Finestal"). T. Halse.—p. 425.

Hypernephroma, Hypertension and Renal Function.—Bohn reports 57 patients between the ages of 42 and 82 with hypernephroma, 23 of whom presented hypertension. In 8 patients the hypertension was of the renal type, while 15 pre-

sented the picture of essential hypertension. In both groups those with and those without hypertension, the majority of patients were between the ages of 55 and 65 years. No causal relationship could be demonstrated between nephroma and hypertension, and that applies to essential as well as to renal hypertension. Renal hypertension did not occur in patients with extensive unilateral or bilateral tumors in the kidneys. Hypertension did not occur even in the 3 patients with additional bilateral occlusion of the veins of the kidney by tumor tissue. Six patients presented the so-called "extrarenal kidney syndrome"; extensive metastasis to the liver was observed in all of them. A close biochemic relationship between the albumin of the liver and of the kidneys may be considered responsible for the occurrence of immunobiologic reactions, which are directed simultaneously against liver and kidneys resulting in a "serous inflammation" of the vascular apparatus of these organs. The adrenals likewise may play a part in these vascular lesions, which may involve large areas of the terminal blood vessels. An isolated disturbance of secretion of urine was demonstrated in 8 patients by Volhard's test. The largest half-hour amount was between 100 and 150 cc.; the four hour amount was around 600 cc. After the surgical removal of the tumor the test revealed normal conditions. Sixteen patients presented between 5 and 12 per cent eosinophils; 3 patients had mucous or mucoulcerous colic; 2 patients had a so-called acute tumorous endocarditis; 1 patient aged 60 had acute polyarthritis for the first time, and 1 patient aged 67 had acute diffuse glomerulonephritis. These various immunobiologic syndromes may result from the absorption of albumin from the tumor tissue and from the tissues of the organs affected by pressure damage.

Lyon Chirurgical, Paris

43:129-256 (March-April) 1948. **Partial Index**

Results of Conservative Surgery in Arteritis. P. Wertheimer and R. Gautier.—p. 129.
Progress in Vascular Surgery. R. Leriche.—p. 134.
Postoperative Adhesive Peritonitis. A. Massardier.—p. 154.
*Late Results of Unilateral Splanchnicectomy in Treatment of States of Hypotonia of Biliary Ducts. P. Mallet-Guy and M. Jaubert de Beaujeu. —p. 157.

Splanchnicectomy for Biliary Hypotonia.—Mallet-Guy and Jaubert de Beaujeu performed splanchnicectomy on 92 patients, 75 women and 17 men between the ages of 16 and 74, 33 of whom had gallbladder atony, 21 essential diffuse hypotonia of the bile ducts, 16 hypotonia of the common bile duct and 22 hypotonia of the common bile duct associated with chronic pancreatitis. Diagnosis of gallbladder atony was established by clinical observation and cholecystography, or by manometric and roentgen ray control during operation. Hypotonia of the common bile duct as a functional disturbance was demonstrated by cholangiography and by manometric recordings during operation. Hypotonia of the common bile duct may be an isolated disturbance or may be associated with hypotonia of the gallbladder, with cholelithiasis or with disease of the cystic ducts or even with the existence of calculi in the choledochus. Hypotonia of the common bile duct was observed during repeated operation in patients with recurrence of symptoms after cholecystectomy. This hypotonia appeared to be the only causative factor in postoperative pain and cholangitis. Hypotonia of the biliary ducts is frequently associated with chronic pancreatitis; this association presents the main indication for splanchnicectomy. Follow-up for one to six years was carried out in 88 of the authors' cases. Results were satisfactory in 81. There were 7 failures and 1 postoperative death. The fatal case was due to the additional resection of the external horn of the semilunar ganglion, which affected the vagal conduction and induced secondary paralysis of the stomach and duodenum.

Prensa Médica Argentina, Buenos Aires

35:1577-1620 (Aug. 13) 1948. **Partial Index**

*Late Postoperative Pulmonary Atelectasis. Syndrome of Late Spastic Atelectasis of Left Inferior Lobe in Association with Acute Segmented Dilatation of Colon. M. R. Castex and E. S. Mazzei.—p. 1577.

Late Postoperative Pulmonary Atelectasis.—The clinical form of pulmonary atelectâsis described by the authors has not been previously reported in the literature. The subjects of this report, a woman and a man, were subjected to a cholecystectomy for biliary lithiasis. Gas anesthesia was used. The postoperative stage was uneventful, up to the ninth and the fifteenth day, respectively, after the operation, when clinical symptoms of acute segmental dilatation of the colon appeared in association with clinical and roentgen symptoms of atelectasis of the inferior lobe of the left lung. Treatment consisted of orthosympathetic depressor drugs and cathartics. The authors believe that this form of atelectasis is due to bronchial spasm of segmental colonic orthosympathetic reflex origin which disappears when the colonic disorder and the consequent bronchial spasm subside.

Presse Médicale, Paris

56:605-616 (Sept. 4) 1948. **Partial Index**

Schwannoma of Pancreas, L. Cornil, R. de Vernejoul, H. Gastaut and R. Muratore.—p. 605.
*Frequency of Ovarian Metastasis from Cancer of Breast. A. Sicard. —p. 606.
Results of Vaccination Against Diphtheria in Spain. R. Rendu.—p. 606.

Ovarian Metastasis From Cancer of Breast.—Sicard reports 38 cases of cancer of the breast, in women between the ages of 35 and 72, 11 of whom had ovarian metastases. Castration was performed on 23 of the 38 patients after amputation of the breast. None of them presented any signs of metastasis, but in 2 metastasis was present in the ovaries, which appeared entirely normal. The remaining 15 patients presented early or late metastases of bones, lymph nodes or viscera after amputation of the breast or in the absence of any local treatment of the tumor. Nine of them presented metastases of the ovaries. In 3 the metastasis was demonstrated on surgical intervention, but in 6 only on microscopic examination of the specimen. In 2 patients castration had been performed by irradiation resulting in menopause, but the atrophied ovaries presented cancerous cells. The high incidence of metastases of the ovaries from cancer of the breast suggests advisability of surgical castration rather than of castration by irradiation, and preferably a hysterectomy which, besides its hormonal role, may suppress a latent cancerous localization in a large number of cases.

Revista Médica de Chile, Santiago

76:315-372 (June) 1948. **Partial Index**

*Cardiopathy in Chagas's Disease in Central Zone of Chile: Preliminary Report. T. Pizzi, J. Valls and R. Florenzano.—p. 315.
*Venous Thrombosis: Review of 161 Cases. L. Figueroa G.—p. 341.

Cardiopathy in Chagas's Disease.—Pizzi and collaborators carried out clinical and electrocardiographic observations on 411 Chilean patients with chronic trypanosomiasis cruzi in the central rural zone of Chile and in 66 normal persons of the same zone. They found that the general health of the patients was good. Cardiac insufficiency was rare. When it appeared it was mild and was caused by factors other than Chagas's disease. The capacity for work was normal. Electrocardiographic changes consisted mainly of an auriculoventricular block and right bundle branch block, of Wilson's type, they were present in 43 of 397 electrocardiograms. Clinical studies and laboratory tests failed to show pathogenetic factors other than trypanosoma as cause of the alterations. Rural, chronic trypanosomiasis in Chile is benign, and of slow evolution. It causes mild myocardial lesions in a small percentage of the patients.

Venous Thrombosis.—Figueroa G. analyzed the records of 161 patients with thrombophlebitis or phlebothrombosis who were observed in the last six years in the principal hospitals of Santiago. Surgical trauma, delivery and abortion were the most frequent causal factors. Thrombosis was unilateral in 111 cases, in 86 of which only the left leg was involved. Pulmonary embolism was a complication in 9 of 13 cases with phlebothrombosis and in 14 of 148 cases with thrombophlebitis. The embolus was solitary in 13 of the 14 cases complicating thrombophlebitis and multiple in 1 case of thrombophlebitis and in 9 cases of phlebothrombosis. In all cases of embolism the accident occurred during the first two weeks after the appearance of venous thrombosis. In more than half the cases the embolus was located at the base of the left lung. Anesthesia of the lumbar sympathetic is the best treatment for thrombophlebitis, whereas anticoagulants and vein ligature is the treatment of choice for phlebothrombosis.

Book Notices

Homostatic Agents with Particular Reference to Thrombin, Fibrinogen and Absorbable Cellulose. By Walter H. Seegers, M.S., Ph. D., Professor of Physiology, Wayne University College of Medicine, Detroit, and Elwood A. Sharp, M.D., Sc.D., Director, Department of Clinical Investigation, Parke, Davis and Company, Detroit. Fabrikoid. Price, $4.75. Pp. 131, with 27 illustrations. Charles C Thomas, 301-327 E. Lawrence Ave., Springfield, Illinois; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; The Ryerson Press, 299 Queen St., W., Toronto 2, 1948.

The technic of hemostasis has been revolutionized, within less than a decade, by the development of concentrated stable thrombin preparations and of absorbable materials such as oxidized cotton, fibrin foam and gelatin foam. Many aspects of the subject are compactly reviewed in this small book.

The opening chapter gives an interesting survey of the chemical reactions involved in the process of blood clotting. This highly controversial topic is given as unified a treatment as possible from the point of view of Dr. Seegers, whose contributions in this field in recent years have been second to none. The bibliography covers the literature only through the year 1946. Therefore, some major advances occurring in 1947 are necessarily unmentioned: for instance, the work of Seegers himself, and others, on the plasma accelerator factor (Ac-globulin), and the work of Ferry and Morrison and of Hawn and Porter on the structure of the fibrin clot. It is regettable that, presumably through delay in publication, the gap between the information in this chapter and the present state of our knowledge should be as large as it is.

Chapters II, III and IV cover the process of topical hemostasis with thrombin alone, the chemical properties of fibrinogen and its clinical use. Chapter V treats at length of oxidized cellulose, and chapter VI gives a brief discussion of fibrin foam and gelatin sponge. The discussion of thrombin deals almost entirely with thrombin from bovine blood, although the extensive use of human thrombin, from blood collected by the Red Cross during the war, is briefly mentioned. The chapter on fibrinogen treats topics not directly related to the problem of hemostasis, such as skin grafting and the use of fibrinogen and thrombin in the pyelolithotomy operation. Nerve suture by fibrin fixation is briefly discussed.

The book can be recommended as a useful presentation of modern technics in hemostasis and of their background in the chemistry of blood clotting.

Total Protein, Globulin and Albumin in Lumbar Fluid in Cryptogenic Epilepsy: A Clinical Methodological Study. By Richard Eeg-Olofsson. Acta psychiatrica et neurologica Supplementum 50. Paper. Pp. 192, with 6 illustrations. Stockholm, 1948.

The author has measured the total protein and the globulin-albumin quotients in 133 patients with epilepsy (21 of these "symptomatic") and in 67 "control" patients. The data are presented in detail in fifteen tables and four charts, and discussed intelligently against a background of more than 200 references. The method of Izikowitz was employed. In 5.5 per cent of 110 patients with cryptogenic epilepsy, the total protein was above the normal limit. The globulin-albumin quotient was below normal in 10 per cent. This abnormal ratio was due both to unusually low values for globulin and high values for albumin. Measurements on successive occasions might produce different values. Thus, a subnormal quotient was found at least once in 17 per cent of 110 patients. However, abnormalities could not be related to the time interval after a seizure, to the frequency of attacks, to the duration of the epilepsy or to electroencephalographic foci. Although some of the case histories give evidence of the presence of pathologic changes in the brain, the author seems to suggest an etiologic role for the protein by proposing the term "epilepsia hyperproteinorrhachia." The low globulin-albumin ratios are not due to low values of total protein, nor are they confined to cryptogenic cases. They may be related to alterations in the permeability of the blood–spinal fluid barrier.

This is a painstaking though somewhat disconnected presentation of a mass of clinical and laboratory data. The author has difficulty in deciding whether certain cases should be classed as symptomatic or cryptogenic. Apparently he does not consider that a given case may be the result of both genetic and acquired factors.

Everyday Miracle: Through Intimate and Sympathetic Observation of Animals, a Brilliant Scientist Illuminates the Miracle of All Life. By Gustav Eckstein. Cloth. Price, $2.75. Pp. 235. Harper & Brothers, 49 E. 33d St., New York 16, 1948.

If there is another book which even remotely approaches the character of this one, this reviewer has not seen it. It is a presentation of observations which appear haphazard and disconnected and yet fall into a pattern. There are twenty chapters, each with a theme, such as time, hunger, life, exercise, hearing, fight, sleep, posture, sex and death. For each chapter the author presents observations on animals, such as a cat that knows Monday, storks that talk Egyptian, the smell of twelve million headless codfish and their severed heads, a rabbit which adopted a family and a spotty dog that walks on two feet. The presentation of careful scientific observations is given life and interest by the author's vivid imagination, his whimsical fantasy, and an occasional touch of mordant humor, such as the opening sentence of one chapter: "I was told this by a pretty woman, but I believe it."

This book should take its place among the classics of interpretive medical writing for lay consumption. It is comparable to Cannon's "Wisdom of the Body" and Sherman's "Science of Nutrition." It is the kind of book that a doctor can pick up for relaxation. At the same time, he will learn much about animals which he has never had occasion to know before. Not least among the charms of this book is its style, which is always fresh and original, sometimes jerky and teeming with surprise twists which keep the reader's interest constantly alert.

Medullary Nailing of Küntscher. By Lorenz Böhler, M.D., Director of the Hospital for Accidents in Vienna. First English edition revised by the Author. Translated from the Eleventh German edition by Hans Tretter, M.D., Surgeon in Charge of the New Jersey Manufacturers Hospital, Trenton, N. J. Cloth. Price, $7. Pp. 386, with 1261 illustrations. Williams & Wilkins Co., Mount Royal and Guilford Aves., Baltimore 2, 1948.

This book, originally published in German as the third volume of Böhler's work on fractures, is most welcome. Medullary nailing has not been extensively used in this country, nor has there been much of a tendency to add it to our armamentarium. Böhler presents the subject objectively and in a comprehensive manner. The treatise is based on a study of hundreds of cases and many thousands of roentgenograms. He states clearly that the method has a narrow field of application. In his own words, "It is evident that closed medullary nailing is suited chiefly for transverse fractures of the femur in the middle third and for localized osteitis fibrosa cystica, whereas in other fractures it frequently entails more disadvantages than advantages." He emphatically is opposed to its use by open operation and presents conclusive evidence to disclaim the original contention of Küntscher that the nail is a stimulus to formation of callus.

In spite of the rather narrow field which Bohler claims for the Küntscher nail he presents a complete system of treatment for every long bone with copious illustrative roentgenograms and apparatus and careful outlines of methods. Much of this he condemns after a thorough exposition. In a sense this book is more of a treatise than a text, dealing as it does with a method of treatment not widely accepted and limited by the author of the book to relatively few situations.

As an addition to the literature of fracture surgery, the book is "must" reading for those who use or intend to use this method as part of their armamentarium. It goes a long way toward defining the field of usefulness of this new method and will help a great deal in preventing too wide a swing of the pendulum, as usually occurs with any new method. Dr. Böhler is to be congratulated on a fine presentation and Dr. Hans Tretter for his excellent translation.

A Handbook of Charting for Student Nurses. By Alice L. Price, R.N., B.S., Director of Nurses, Alton Memorial Hospital, Alton, Ill. Third edition. Loose-Leaf. Paper. Price, $3.75. Pp. 386, with illustrations. C. V. Mosby Co., 3207 Washington Blvd., St. Louis 3, 1948.

This book is a carefully prepared guide for student nurses, giving detailed information on methods of hospital charting. It gives instruction on lettering and illustrates charting procedure in relation to each of the forms that are commonly employed in a complete clinical record. Practice pages are likewise included and more can readily be added, since the material is con-

veniently arranged in looseleaf form. The book also contains general rules for charting, a list of standard abbreviations and symbols, a table of foods and diet classification, and a comprehensive list of terms commonly used in charting. In schools of nursing education the handbook will serve as a valuable teaching aid.

Cirrosis de hígado, estadios previos: Histofisiología normal y patológica del hígado, pruebas funcionales y tratamiento. Por le Dr. Luis Bernardo Rabinovich. Prólogo por el Dr. Andrés López Garcia. Premio "Facultad de ciencias médicas." Paper. Price, 40 pesos. Pp. 707, with illustrations. Editorial Cayetano Vergara, Loria 60, Buenos Aires, 1948.

This monograph on cirrhosis of the liver is based, in addition to an exhaustive review of the literature, on observations on 41 patients treated conservatively and on the study of twenty-seven biopsies obtained in course of operations performed for various lesions of the biliary tract.

The author begins in a systematic manner with the embryology, anatomy, histology and physiology of the liver and proceeds to describe the pathologic changes characteristic for cirrhosis, its various stages, pathogenesis, experimental findings, interrelations with the spleen and prodromal symptoms. Case histories are followed by a description of clinical and laboratory findings, hepatic function tests in general and those considered characteristic for cirrhosis, such as Takata-Ara, Weltmann and Hanger reactions. The last part of the book deals with complications of cirrhosis, its classification and medical and surgical treatment.

The author differentiates two stages of cirrhosis, (1) the stage of evolution and (2) the so-called cicatricial cirrhosis which represents the final, irreversible phase of the condition. All hepatic function tests are of little practical value in the recognition of early stages of the lesion or so-called precirrhosis, which, however, can be detected in biopsies. Therefore the author makes a strong plea for this procedure in contradistinction to a liver puncture, which is considered hazardous. A specimen for biopsy can be obtained in course of other surgical interventions or by means of a special laparoscopy. Only in this manner can precirrhosis be detected and the responsible factors possibly eliminated.

Of 707 pages, the case reports occupy not less than 218. The question suggests itself whether a tabulation of the results and a brief synopsis would not serve the same purpose.

Recent advances in the surgical treatment of cirrhosis, such as the portocaval shunt or its modifications, are not mentioned by the author.

The book is illustrated with black and white photomicrographs and diagrams. The index is inadequate. The book is well written, well designed and fills its purpose well.

Let's Tell the Truth About Sex. By Howard Whitman. Cloth. Price, $2.50. Pp. 242. Pellegrini & Cudahy, Inc., 65 5th Ave., New York 3; George J. McLeod, Ltd., Toronto, Canada, 1948.

The title establishes the theme of this book. It is a fine, straightforward piece of work, starting in the first chapter with emphasis on what everyone knows but few acknowledge, that there is nothing wrong with sex but there is a great deal wrong with the attitude of human beings toward this vital function. Just how necessary it is to establish the concept that sex is respectable is indicated by the necessity for devoting three chapters to a justification of early sex teaching and two more to the words and sentences to be used in such teaching. After these five preliminary chapters the author devotes chapters 6 and 7 to presenting material suitable for little children and for those somewhat older. Then through three chapters he deals with special problems, such as nudity, masturbation, venereal diseases, crushes, necking and petting and "the need for sex." Marriage counseling, sex in the schools, moral issues and a final chapter entitled, "Save Sex—and Maybe Civilization, Too" complete a well rounded discussion. Particularly useful is the clarification of the so-called "Catholic opposition," which the author fairly points out is not opposition to sex instruction as such, but insistence that it be done in the home and in the church rather than in the school.

Among the many books on this subject of sex, this one can be recommended with assurance.

The Machinery of the Body. By Anton J. Carlson and Victor Johson. Third edition. Cloth. Price, $4.50. Pp. 639, with 220 illustrations. University of Chicago Press, 5750 Ellis Ave., Chicago 37, 1948.

This reviewer has often decried the tendency to write new textbooks which do not present a new approach to subject matter. Those remarks do not apply to this work. Although the first edition appeared twelve years ago, this edition is again a refreshing and stimulating presentation of material old to the professional physiologist, but as invigorating as if totally new. The worst criticism is the unevenness of the level of appeal. For the most part the presentation is aimed at the level of the intelligent college student. At times, however, the textual material seems most suitable for the level of the advanced seminar in physiology, except for its brevity. Perhaps this is inevitable and is not too serious. Sections in which important revisions have been made in response to new developments are blood, body defenses, emotions, cancer, and radioactive substances. The extent of treatment is necessarily brief for each subject heading, but the approach is sound and conclusions conservative. Illustrations are largely new, original and aptly applied.

Klinische Hämatologie. Von Dr. Hanns Fleischhacker. Cloth. Price, $19. Pp. 624, with 277 illustrations. Grune & Stratton, Inc., 381 Fourth Ave., New York 16; Wilhelm Maudrich, Spitalgasse 1B, Wien IX/2, 1948.

This is a well written textbook of hematology representing the view of the Vienna school of hematologists, corresponding to the American hematology of about fifteen to twenty years ago. The newer discoveries are however, discussed, including use of liver extract in pernicious anemia, the Rh factor, and the use of folic acid, but the literature does not reach to the use of radioactive phosphorus in polycythemia, or the more modern methods of hemoglobin determination. There is little reference to American literature after 1940, but European references after that date to 1947 are given. Unfortunately, a defect in the printing of the colored pictures makes most of them entirely useless, but some of the black and white pictures are excellent. The book contains some valuable data from the extensive material available to the author, but does not replace some of the more extensive American or British works.

The Truth About the Stork. By Edward F. Griffith, M.R.C.S., L.R.C.P. Cloth. Price, 6s. Pp. 136, with 59 illustrations. H. K. Lewis & Co., Ltd., 136 Gower St., London, W.C.1, 1948.

This is another crusade against the poor old stork, emanating this time from the British Empire. The book was published in London. It is a gesture toward frankness, but the photographs of the male and female nude are from the rear. All the other illustrations are diagrams, with the exception of a few innocuous photographic fillers. Factually the book is satisfactory. The presentation is without originality and most of the drawings are relatively crude. Despite all that one hears about the shortage of paper, this book is wastefully printed. Several whole pages are devoted to illustrative drawings which contribute little or nothing, and there is considerable waste space on pages where single paragraphs or small groups of paragraphs occupy half a page and the remainder is white paper. The white space is not even utilized to give the book attractiveness.

This may be classified as a useful but not particularly attractive publication.

Dental Education Today. By Harlan Hoyt Horner, Secretary of the Council on Dental Education of the American Dental Association, Chicago. Cloth. Price, $6. Pp. 420. University of Chicago Press, 58th St. & Ellis Ave., Chicago 37; Cambridge University Press, Bentley House, 200 Euston Rd., London N.W.1, 1947.

This book, which describes the present status of dental education in the United States, is based on the survey of dental schools conducted in 1942-1943 by the Council on Dental Education of the American Dental Association. First, however, it presents a historical review of the establishment and development of dental schools as well as the early attempts at standardization in this field. Prior to 1840, when the first dental school was established in the United States, the method of training was mainly preceptorial in type. In the period 1840 to 1884, twenty-nine dental schools were organized, all but

eight of which have survived to the present time either under the original control or through mergers or amalgamation with other institutions. By 1895, there were forty-four dental schools in existence, while the peak of fifty-seven was reached in 1900. Twenty years later the number of schools had been reduced to forty-six, and at present forty dental schools are in operation, practically all under university control.

Since 1840, approximately one hundred and twenty-five efforts have been made to establish individual schools. The commercial schools multiplied most rapidly at the turn of the century, but as standardization progressed it soon became evident that professional education cannot be maintained at a satisfactory level if geared to a profit motive. In the dental field the last proprietary school ceased to exist in 1929.

Efforts to improve dental education were in evidence as early as 1866 through the formation of special societies and associations, many of which have survived to the present day. Actual standardization in this field did not begin until 1909, however, when the Dental Educational Council of America was formed. This agency, composed of representatives of the National Association of Dental Examiners, the National Association of Dental Faculties and the National Dental Association (now the American Dental Association), issued standards for dental schools in 1916. The first classification of dental schools was made in 1918 when thirteen were designated as class A, twenty-six as B, seven as C, and two not classified. Annual lists of approved schools were issued thereafter until 1934, when thirty-five schools had attained an A rating and three the B classification, the C listing having been discontinued in 1926.

The book contains ten chapters which describe the present organization of dental schools, physical plants, geographic distribution, brief sketches of individual schools, financial management and support, faculties, students, curriculum and methods of teaching. Auxiliary areas are also included such as graduate and postgraduate education, courses for the training of dental hygienists and dental technicians, the requirements for the approval of dental internships and residencies, the training and recognition of specialists in dental practice and dental licensing examinations. While this comprehensive report concerns primarily the field of dentistry, it will also be of great interest to schools of medicine and individual physicians, since in many respects medical education and dental education represent parallel disciplines.

The Hospital Purchasing File. Established 1919 as the Hospital Yearbook by the Modern Hospital Publishing Co., Inc. Twenty-Fifth edition, 1947-1948. Boards. Various pagination with illustrations. Purchasing Files, Inc., 919 N. Michigan Ave., Chicago 11, 1947.

The Hospital Purchasing File, now in its twenty-fifth edition, is an excellent reference on hospital buying. It contains an alphabetical list of manufacturers and distributors, a directory of hospital products of more than 200 pages, and a group of twenty-one manufacturers' catalogs classified on a departmental or service basis. These groups include administrative, dietary and housekeeping services, laundry, building construction and maintenance, plant operating equipment, professional services and facilities pertaining to surgery, radiology, pathology, obstetrics, anesthesia, pharmacy and other departments. A further reference section contains equipment and supply lists for hospitals of fifty, one hundred and two hundred beds and other valuable information in the planning of hospital departments and services. The book is an excellent source of information and reference for those who are concerned with the services of supply, hospital operation and maintenance.

Cancer: Hérédite, Hormones, Substances Cancérigènes. Tome I. Par le Docteur J. Malsin, professeur à l'Université de Louvain, Louvain. Paper. Price, 84 francs. Pp. 248. Casterman, S. A., Tournai, Belgium; Paris, 1948.

This work is divided into essentially three portions: (1) the relationship of heredity and cancer, (2) the role of hormones in cancer and (3) a discussion of carcinogenesis. Each of these subjects is discussed in its relationship to the general problem of cancer. The chapter on carcinogenesis is particularly well written and complete. A pertinent bibliography is included. The book is well written and should be of value to the physician who is desirous of acquiring information about the heredity and endocrinology of cancer and a knowledge of carcinogenesis.

Minor Surgery. By R. J. McNeill Love, M.S., F.R.C.S., Surgeon, Royal Northern, Mildmay Mission and Metropolitan Hospitals, London. Third edition. Cloth. Price, 22s. 6d. Pp. 430, with 221 illustrations. H. K. Lewis & Co., Ltd., 136 Gower St., London, W.C.1, 1948.

"Minor Surgery" is a well illustrated small manual on the essentials and elementary principles of surgery. It is divided into thirteen chapters, which include discussions on examination of the patient, antisepsis and asepsis, cellulitis, hernia and minor surgical operations.

The book is written in clear simple language. Facts are accurate and convey present day teaching and opinion. Illustrations, excellent pen and ink sketches and retouched photographs, enhance the text.

The book fulfils the purpose of a guide for hospital residents and general practitioners who encounter surgical conditions only occasionally.

L'exploration de la fonction respiratoire: Physiologie, méthode d'exploration, Indications et résultats. Par Jaques Arnaud, médécinchef du Sanatorium du Mont-Blanc, Pierre Tulou et Robert Mérigot, médecins assistants au Sanatorium du Mont-Blanc. Préface de E. Rist. Paper. Price, 425 francs. Pp. 317, with 54 illustrations. Masson & Cie, 120 Boulevard Saint-Germain, Paris 6e, 1947.

After a résumé of the physiology of respiration, the authors describe the methods available for the clinical study of general respiratory function, together with the results obtained in a variety of clinical conditions. The technic of "bronchospirometry" for studying the function of each lung separately is given in considerable detail with illustrative case histories, diagrams and tables, to define the indications and limitations of the several procedures. Specific technics are described more fully in an appendix. This volume will be most helpful to those interested in newer methods of studying respiratory function in the clinic.

Hemolysis and Related Phenomena. By Eric Ponder. Cloth. Price, $10. Pp. 398, with 69 illustrations. Grune & Stratton, 381 Fourth Ave., New York 16, 1948.

Students interested in hemolytic phenomena will welcome this scholarly and up to date presentation. The previous monograph by Ponder on the "Mammalian Red Cell and Properties of Hemolytic Systems" was written in 1934. The present monograph is a critical presentation reflecting not only the author's large fund of authoritative knowledge in this field but his mature thinking on some of the more controversial aspects of the subject. The monograph is not strictly a source book on the subject (although it serves this function equally well), but a critical analysis and discussion of the biophysical and biochemical aspects of the mammalian red cells and hemolytic phenomena written in a most engaging and provocative manner. Although a large body of information is concisely reviewed it is comprehensive in scope and should satisfy the most exacting needs of students in this field. The broad content of the monograph is concerned with shape changes in the erythrocyte unaccompanied and accompanied by volume changes, cytochemistry and architecture, kinetics, inhibition and acceleration of hemolysis and hemolysis in vivo. The monograph is well supplied with tables, diagrams and a critically selected current bibliography. Every student of hematology will want this outstanding contribution in his personal library.

Indice bibliográfico da lepra 1500—1945. Volume III: Q—Z. Organizado por Luiza Keffer, bibliotecária do Departmento de profilaxia da lepra de São Paulo. Paper. Pp. 1435-1936. Biblioteca do Departmento de profilaxia da lepra do estado de São Paulo, Caixa postal 27-B, São Paulo, 1948.

Volume III of the "Indice Bibliografico de Lepra" includes entries covering Q-Z and is the final volume of this excellent bibliography on leprosy compiled by Luiza Keffer, Librarian of the Department for the Prevention of Leprosy of the State of São Paulo. Reviews of volume I (A-H) and Volume II (I-P) will be found in THE JOURNAL, Sept. 15, 1945 and Aug. 7, 1948.

How Life is Handed On. By Cyril Bibby, M.A., M.Sc., F.L.S. Cloth. Price, $2. Pp. 159, with illustrations. Emerson Books, Inc., 251 W. 19th St., New York 11, 1947.

This is a wonderful book for adolescents, to explain reproductive systems of man and beast. The style of writing is easy and direct. Illustrations are informative and ample. The book explains things as most parents wish they could, and leaves little to the child's imagination.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

ASTHMA AND CORONARY OCCLUSION

To the Editor:—**A man, 41 years of age, has had bronchial asthma for twenty years, due in part, it seems, to chronic sinusitis. Although present the year round, it is severest from August 15 to May 15. Relief is obtained mainly by epinephrine in oil, although occasionally aminophylline is sufficient. In addition, he has a multiple allergy, the most predominant being to ragweed pollen. Acute coronary occlusion developed on July 19, with myocardial infarction but the patient is showing good recovery. Is it advisable to continue the use of the epinephrine in oil for the relief of the asthma?**

M.D., Canada.

ANSWER.—The history given suggests that this patient is sensitive not only to ragweeds but to many other substances. One should suspect in this sort of case air-borne molds and household environmental substances, such as feathers, cottonseed, house dust and animal emanations. Sinusitis as a cause of asthma is usually not of primary importance in such cases. It is important that you make an accurate and complete diagnosis of the causes of this patient's condition in order to treat asthma of such long duration, i. e., eight months out of the year. This diagnosis should depend on more than cutaneous tests. The following suggestions are made for treatment during an acute episode:

1. Preparation of the patient's bedroom to remove all allergens to which the patient may be sensitive. There are patients who are sensitive to feathers only during the ragweed hay fever season or during the period when they are exposed to large amounts of other air-borne allergens. It is not unusual for patients to tolerate a certain amount of feather dust at other times of the year with little or no symptoms. Feather pillows and mattresses should therefore be covered by well made allergen-proof covers or rubber pillows and a rubber mattress, if available, should be used. House dust precautions should be carefully carried out, i. e., the removal of rugs from the floor, the avoidance of drapes and hangings in the bedroom and the use of chairs which are not upholstered. Perfumes and flowers should not be allowed in the room.

2. The use of a satisfactory pollen filter in the windows can be of help. If the patient is in an oxygen tent it is equivalent to air filtration. In fact, it is more satisfactory than most available filters.

3. If any foods have been found to be a cause of allergic symptoms, no matter how mild, they should be eliminated from the diet during the period when the patient has asthma, especially during the months when ragweed pollens are in the air.

4. Relief measures for asthma include (*a*) aminophylline, preferably by suppositories, may be used in 7½ grain (0.88 Gm.) doses, three to four times a day. Aminophylline may be given intravenously, very slowly, with observation for any untoward symptoms. The dose may vary from 3½ grains (0.52 Gm.) to 7½ grains (0.88 Gm.), depending on the tolerance of the patient, the rapidity with which the patient responds favorably to the injection and the severity of the attack. The smaller the dose the better. (*b*) Epinephrine solution 1 : 100, by inhalation with an all glass nebulizer, may be used for mild attacks. Treatment should be limited to every four hours. Epinephrine solution 1 : 1,000 may be injected carefully. It is not stated whether this patient has any hypertension. It is preferable to give the aqueous epinephrine solution subcutaneously in the minimum dose necessary for relief of symptoms, i. e., 0.2 to a maximum of 0.5 cc. every four to six hours. The ill effects of epinephrine solution given by injection, i. e., tachycardia or irregularity of rhythm or weakness and syncope, may readily be overcome if one uses a tight tourniquet distal to the point of hypodermic injection of epinephrine solution as soon as these symptoms appear. The tourniquet may be released in a minute to a few minutes with the disappearance of these symptoms and reapplied with the appearance of untoward symptoms. The absorption of epinephrine solution can thus be controlled. Untoward symptoms are unusual if the absorption is controlled for the first ten minutes. If epinephrine by injection in a dose as high as 0.5 cc. fails to give the patient relief from asthma, it must be discontinued for twenty-four to forty-eight hours and aminophylline and other measures used during that time until the patient again responds to epinephrine. Repeating the dose of epinephrine solution if the patient has failed to respond to the previous injection, unless one waits approximately forty-eight hours, may be harmful, especially in this case. (*c*) Sedation. One must make sure that the patient gets an adequate amount of sleep by the use of soporifics which are not respiratory depressants. The use of morphine or its derivatives during an attack of asthma is dangerous because of its tendency to cause depression of the respiratory center.

5. Specific treatment by a well trained specialist in allergy experienced in coseasonal treatment of pollen sensitivity and of mold sensitivity may be helpful.

VISUAL EXERCISES

To the Editor:—**Of what value is the Bates method of exercise and treatment given for cataract and other visual defects?**

Mildred Doster, M.D., Washington, Iowa.

ANSWER.—Ophthalmologists are well aware that such treatments have their limitations and are by no means applicable to all eye defects indiscriminately. Such defects as cataracts, optic atrophy, corneal opacities and retinal lesions are not affected by such treatment. The important thing is that psychologic treatment may reconcile patients to defects, whether of the eyes, ears, legs or other parts of the body, and contribute enormously to the patient's comfort by teaching him how to become adapted to his condition. Doctors too often neglect this side of treatment. On the other hand, skilfully chosen exercises can improve visual functions. They form the basis of orthoptics. It is even possible to improve color discrimination, but impossible to cure color blindness. It is possible to teach myopic persons to make better use of their foggy vision without glasses, but not possible to reduce the myopia. It is possible to teach patients with opacities of the cornea like Aldous Huxley's to use their eyes more comfortably and contentedly, as he was taught and describes in his book. One hundred patients with cataract under competent ophthalmic supervision, as an experiment, were given treatment for one year, such as is recommended and used by various irregular practitioners. At the end of the year over 75 per cent said that they were better and wished to have the treatment continued. Tests with Snellen charts showed vision poorer in nearly every case, showing how unreliable is the patient's impression as to real visual improvement, how extremely important is the patient's subjective impression and how psychotherapy dominates successful treatment of the patient himself as distinguished from the patient's particular pathologic lesion.

PHOTOSENSITIZATION

To the Editor:—**A girl 8 years of age gives a history of being sensitive to light since the age of 3. Her symptoms appear in February, gradually becoming more pronounced until June or July. By the latter part of September apparently a reasonable degree of tolerance has developed, and the girl is then able to expose herself moderately without having a reaction. This child was given diphenhydramine hydrochloride ("benadryl hydrochloride") about two or three years ago. Her response to this medication was satisfactory for one season. Since then, "benadryl hydrochloride" and the other antihistaminic drugs have not produced results. This patient apparently has the ability to desensitize herself to a certain extent. Is there a method of maintaining this through the winter months?**

R. S. Simenson, M.D., Manitowoc, Wis.

ANSWER.—The symptoms are not stated, but we can assume that the striking lesion is on the skin. Allergy is not the common cause of sensitiveness to light. In only a few cases has it been possible to transfer the reaction by injecting the patient's blood serum into the skin of a normal person and then demonstrating the reaction by exposure of the treated area. Such a test would be interesting here. In an excellent chapter on this subject, Urbach and Gottlieb distinguish exogenous and endogenous types of photosensitization. In occasional cases such drugs as the sulfonamide preparations or the barbiturates can lead to light reactions. Certain plants, like buckwheat and clover, can produce light reactions in animals. The topical application of sulfonamide drugs can also make the skin reactive to light in rare cases. The authors discuss the role of raw vegetables and raw meats in disturbing the metabolism of the porphyrins. Endogenous causes are more important, especially in adults. Hepatic disease is the major cause, but disintegrating tissue protein as in peptic ulcer, blood hemolysis or intestinal lesions, can also give rise to increased porphyrin in urine and stools. In this patient the diagnosis can be confirmed by exposing a small area of skin to the sun or to ultraviolet rays when the rest of the body is covered with a black cloth. For treatment, the child needs a careful and complete study to exclude the endogenous factors. Make the diet plain, avoid uncooked foods and be sure to eliminate drugs of every kind. Exposure to ultraviolet rays to maintain the tolerance through the winter can be tried, but it is not too successful.

Urbach, E., and Gottlieb, P. M.: Allergy, New York, Grune & Stratton, Inc., 1946, pp. 417-431.

POLYARTHRITIS

To the Editor:—A white, female nurse, aged 26, complains of periodic low grade fever, stiffness and discomfort and swelling of fingers, hands and arms (with sensation of diffuse nodules in skin at times in her antecubital areas) which cause her to drop things at times. General malaise and tiredness occur during these episodes which recur regularly every few weeks. Her legs "feel like lead" on such occasions. Her first attack began during training four years ago with a temperature of 106 F. and swelling and pain of her right arm which lasted for two weeks and left her weak and drowsy for one week. Another sudden one, just involving the fingers, followed one year later; since then these have been recurrent. The patient has recurrent frontal headaches and some dysmenorrhea. The periods are regular and not excessive. The patient has had facial palsy since 6 weeks of age. She also has 2 brothers and 1 sister with similar history and appearance, in every case dating to infancy, when they would suddenly awake out of sleep with a shrill painful cry followed by this paralysis, which has persisted since. She had streptococcic sore throat six or seven years ago. Appendectomy was done in 1945.

The father and uncle have diabetes. A brother has heart failure.

The patient's physical examination elicited no abnormality findings except for those stated together with some coarsening of features. A pelvic examination was not done. There was no involvement of joints. The patient has had a basal metabolic rate ranging from minus 10 to minus 23 and is being given thyroid. The blood calcium is 17 to 24 mg. per hundred cubic centimeters; phosphorus, 2.92 mg.

During an attack the patient had a red blood cell count of 4,000,000 and a white blood cell count of 9,100, with 8 per cent eosinophils, 4 per cent stabs, 50 per cent segmented cells, 30 per cent lymphocytes and 8 per cent monocytes. Repeated heterophile antibody tests and undulant fever agglutination tests elicited negative reactions. Roentgenograms of the skull revealed marked hyperostosis of the frontal and parietal internal table, more marked in the anterior fossa, with excess bone density also along the base of the skull. The sella turcica bone and the humerus were normal. Biopsy of antecubital tissue was negative in result. Treatment with penicillin, streptomycin, diphenhydramine, was without effect. What are suggestions as to diagnosis and treatment? The patient has had a course of treatment for possible undulant fever.
M.D., Missouri.

ANSWER.—This patient presents the clinical picture of recurrent, febrile polyarthritis; the most common cause of this in young persons is rheumatic fever. It would be of interest to know whether this was the cause of heart disease in the patient's brother. On the evidence available, it is not possible to exclude rheumatoid arthritis. The presence of subcutaneous nodules is characteristic of both diseases. Less common generalized diseases of the connective tissue which must be considered are lupus erythematosus disseminatus, periarteritis nodosa and dermatomyositis. The absence of cutaneous changes and hematuria and the negative biopsy render these unlikely, although the slight degree of eosinophilia is consistent with any of them. Gouty arthritis is a remote possibility.

The only observation not explained by any of these is the 17 to 24 mg. of calcium per hundred cubic centimeters of blood. Since this is one of the laboratory determinations most often found to be faulty, it should be repeated in another laboratory if possible. If it is confirmed, hyperparathyroidism must be considered and a careful history taken to exclude the possibility of vitamin D intoxication. The low basal metabolic rate is characteristic of any debilitating disease, and the hyperostosis frontalis interna is a common incidental finding.

Further studies which might be useful are: repeated determinations of serum calcium and phosphorus, serum alkaline phosphatase, serum albumin and globulin (in Boeck's sarcoid and in myeloma high serum calcium is associated with high serum globulin), urinary calcium excretion, erythrocyte sedimentation rate, response to therapeutic trial of salicylates and electrocardiographic studies.

PERTUSSIS AND MEASLES IMMUNITY

To the Editor:—Please answer the following questions: 1. What is the status of human convalescent serum for pertussis? Is it effective in treatment in an active case? 2. Up to what age should infants be considered immune to measles? Below what age should human globulin not be given for exposure to measles?
M.D., New York.

ANSWER.—1. There is not sufficient evidence to prove the value of human convalescent whooping cough serum. Moreover, pertussis convalescent serum is rarely available, but human hyperimmune serum can be obtained and is considered by many to be efficient. For passive immunity the serum should be administered as soon as possible after exposure. Human hyperimmune pertussis serum when given for treatment of whooping cough often seems to be beneficial.

2. If a mother has had measles, the disease is uncommon in her offspring before 6 months of age and is rare under 4 months. Because most adults have had measles during the first years of life there is conveyed to the infant a transient immunity which usually endures for from four to six months after birth. Therefore, it is not necessary generally to give human immune globulin prior to 4 months of age, but there is no serious objection to doing so.

PHYSICAL ALLERGY

To the Editor:—A patient, age 21, unmarried, experiences intense itching of the skin all over the body immediately after a shower or tub bath, either hot or cold water. Water in different parts of the country causes the same effect. The reaction occurs during warm weather but not during cold weather. Mere dampness in the air excites itching in a mild manner. It is apparently not related to menstrual periods; however, menstrual cycles are somewhat irregular. She is somewhat obese. Blood pressure and routine laboratory tests reveal nothing noteworthy. Antihistaminics have been tried in bold dosage, without avail. Allergy to foods or pollens is absent. Please advise treatment.
M.D., Alabama.

ANSWER.—The patient described appears to have an abnormal response to temperature change, called "physical allergy." While most of such cases of thermal hypersensitivity are due to cold and a lesser number are due to heat, a third group reacts to both cold and heat. Usually urticarial lesions accompany the phenomenon, but itching may be frequent without evident lesions. The mechanism is commonly accepted as an increased tendency to release large amounts of histamine from the tissues exposed to the thermal stimuli. Humidity aggravates the condition, because the temperature is more penetrating when the percentage of humidity is high than when the air is dry. It is not easy to understand why the syndrome does not occur in cold weather. Possibly the colder weather induces an increased tolerance.

The inquirer might try to reproduce the syndrome by exposure to cold or heat and note any blood pressure change. A decided fall in blood pressure would speak for a histamine release. The management of these cases is not easy. The antihistaminic drugs frequently fail, perhaps because of the fact that the amount of histamine liberated is too great to be combated by the amount of antihistamine drug reaching the skin sites. Several procedures are worthy of trial. One is a daily exposure to cold followed by heat. This may be in the form of an immersion of the hand and forearm in water at temperature of 50 F. for about four minutes twice daily, followed by exposing the extremities to warm water. In some patients frequent injections of small doses of histamine may result in improvement. This consists usually of histamine of 1:100,000 or 1:10,000, subcutaneously, once or twice daily. The mechanism of this is not known, although it is certain that it is not due to a production of greater histamine tolerance. Another method of approach is the use of nonspecific injections or fever therapy.

NITROGEN DETERMINATION: NESSLER METHOD

To the Editor:—I have had difficulty doing a nonprotein nitrogen determination of the blood according to the Folin and Wu method. I am using a Leitz colorimeter. The values are always too high. When Nessler's solution is added the resultant mixture becomes too dark. I am using fresh solution. Please supply information.
Abraham Shedlov, M.D., Fosston, Minn.

ANSWER.—There are several possibilities of error in the determination of nitrogen by the Nessler method, which must be avoided if accurate results are to be obtained:

1. The Nessler's reagent must be carefully prepared and must stand undisturbed in a dark bottle until the solution has become completely clear. This usually requires three to four weeks, but the solution appears to improve with further aging. The sediment should not be disturbed in withdrawing solution, and siphoning is the preferred technic for removing solution from the stock bottle.

2. The alkalinity of the final reagent must be within the limits given in standard laboratory manuals.

3. The Nessler's solution must be added rapidly, preferably from a graduate, to a cold solution, and the two should be mixed immediately with further cooling if necessary.

4. The final solution must be sparkling clear since turbidity completely obviates photometric determination of color intensity. The simplest test for turbidity is viewing the solution through the length of the tube. In clear solutions the bottom will be clearly seen, while in turbid solutions the bottom of the tube cannot be seen.

5. The quantity of nitrogen in the sample should be between 0 and 0.1 mg. expressed as nitrogen. Quantities of nitrogen above this range are prone to give turbid solutions.

ACETYLSALICYLIC ACID IN PREGNANCY

To the Editor:—Does acetylsalicylic acid act similarly to quinine during pregnancy in stimulating uterine contractions? If so, is this action likely to be encountered in equal measure throughout pregnancy, or is it more marked at certain stages of gestation?
M.D., China.

ANSWER.—The literature apparently contains no evidence which tends to show that acetylsalicylic acid causes uterine contractions.

RECURRENT ERYSIPELAS

To the Editor:—**What is the latest information on treatment of recurrent erysipelas? A 52 year old man had his first attack in 1941 with reddening of the inner side of the leg and swelling of the lymph nodes on the same side. At the beginning, the attacks recurred in intervals of two weeks. Later, the periods of freedom from attacks became longer—the longest lasting up to one year. During these years the patient was advised to treat the skin of the leg by bathing with potassium permanganate solution alternating with sulfathiazole ointments. After the longest remission, of one year, he suddenly had attacks again in intervals of three to five or six weeks. Fever which accompanied these attacks responded quickly to sulfadiazine. Trial with penicillin has not brought any change. Would you advise use of streptomycin or other procedure? Roentgen treatments as well as protein therapy have been unsuccessful. The patient has athlete's foot and is constantly treated for this condition in the belief that it may be a predisposing factor. He is in perfect health otherwise, with the exception of moderately enlarged veins of both legs.**

Egon E. Lustig, M.D., New York.

ANSWER.—This is a difficult therapeutic problem. The difficulty is apparently an immunologic one, the patient having a heightened susceptibility toward some organism, probably, but not necessarily, a hemolytic streptococcus. Three lines of attack should be tried, although none of them offer too great a promise of cure: 1. Foci of infection anywhere in the body should be searched for and eradicated. 2. Cultures should be made from the skin at the times of the attacks and vaccines made from these organisms. A course of vaccine injections may be tried with the hope of hyposensitization. 3. More attention should be paid to the patient's dermatophytosis. This should be under continuous therapy with some of the newer fungistatic agents, such as mixtures of undecylenic acid and zinc undecylenate, assuming these to be well tolerated. Intradermal tests with trichophytin should be performed, and if the patient exhibits pronounced reactivity desensitization might also be tried.

The susceptibility of the cultured organisms to streptomycin could be determined, but it is not felt that a course of this or any other antibiotic will provide a permanent cure. None of these measures hold real promise of success; nevertheless, they should be tried because, if attacks continue, they may lead to fibrotic changes with ensuing lymphedema.

On the theoretical side the correct diagnosis in this case is by no means certain. The case may be one of orthodox recurrent erysipelas or it may be a recurrent erysipelas-like eruption. In this event the causal organism could be anything, but the most likely nonstreptococcic cause is a sensitization to a fungus, especially Trichophyton. If this is so the eruption is a recurrent erysipelas-like trichophytid. The literature on this has been well discussed in two answers in Queries and Minor Notes, THE JOURNAL, July 10, 1943, page 77, and March 7, 1947, page 655.

DEPILATORIES

To the Editor:—**Kindly outline the rational treatment of hypertrichosis (superfluous hair) of the face. Please name the best depilatories, indicating the ingredients and their doses.**

F. Stuczynski, M.D., Brooklyn.

ANSWER.—The only safe method for permanently removing superfluous hair is by electrolysis. Depilatories are temporary methods of removing hair and must be repeated every ten to fourteen days. Barium sulfide or a mixture of calcium and barium sulfide are chiefly used. The depilatories appear in powder form or may be sold as semisolids. If in powder form, the preparation is mixed with enough water to form a paste that is easily applied to hair regions. It is allowed to remain on the skin until dry and then washed off. The hairs come off in the washing. Andrews recommends the following formula:

Calcium sulfide	1 part
Water (to make paste)	
Zinc oxide	3 parts

This may be irritating, and the label should include the ingredients and a word of caution.

Mix into a paste with a little water, rub on the skin for five minutes. Scrape off softened hairs with the edge of a tablespoon; wash the skin. Apply a soothing lotion, such as calamine lotion.

McCarthy recommends the following paste:

	Gm. or Cc.
Barium sulfide	10
Zinc oxide powder	12
Starch	12

Keep container tightly closed. When ready to apply, add sufficient water to make a paste and leave on two minutes before scraping off. Apply a soothing cold cream to allay irritation. This application should be repeated every ten to fourteen days.

Roentgen therapy is mentioned here to condemn it because of its dangerous sequella. Depilatory creams with thallium salts also are condemned because of their toxicity.

CONDYLOMA LATUM

To the Editor:—**A 20 year old female patient was seen June 1947 for secondary syphilis, with typical macular eruption on the palms of both hands. The Kline reaction was 4 plus and quantitative Kahn 120 units. Spinal fluid was negative after three weeks of therapy. The patient was given fourteen consecutive daily injections of penicillin, Romansky formula 300,000 units each, along with oxophenarsine hydrochloride (mapharsen) 0.06 Gm. twice weekly for twelve injections, plus 1 cc. (2 grains) of bismuth compound every five days, for a total of twelve injections. The quantitative Kahn reaction has returned to negative after one year. The Kline diagnostic and exclusion reactions remain positive. Spinal fluid July 1, 1948, was normal with a cell count of 1, negative Wassermann, colloidal gold and globulin reactions. Physical examination revealed no abnormalities except for fairly severe and extensive condyloma accuminata about the vulva and anus, of two weeks' duration. In the face of an apparent return to normal of reactions to quantitative Kahn made at two-months intervals, I cannot explain the occurrence of the condylomas on a syphilitic basis. Evidence of other venereal infection is lacking. I plan to treat the condylomas with resin of podophyllum but am hesitant as to whether or not they are syphilitic. All tests were done at the same laboratory.**

M.D., Ohio.

ANSWER.—Condyloma accuminatum is not due to syphilis; condyloma latum is due to syphilis. The latter occur as a manifestation of the so-called secondary stage of syphilis, when, by all the rules, the serologic test of the blood should reveal a strongly positive reaction with a high titer. In this case the history of adequate treatment followed by a serologic curve in which the Kahn quantitative titer decreased steadily, until the reaction became and remained negative, would indicate that the patient's syphilis is "cured" and that her condylomas are the nonsyphilitic accuminate type. Treatment with resin of podophyllum is well worth a trial in this case. The blood should be checked at regular intervals for about five years more and, if the Kahn reaction continues to be negative, no further antisyphilitic treatment will be necessary.

TRAUMATIC PITUITARY NECROSIS

To the Editor:—**I am unable to find literature which mentions pituitary necrosis secondary to trauma. We have recently had a case of basal skull fracture, in which death occurred five days after injury. Autopsy findings revealed the fracture line passing through the pituitary fossa with a blood clot surrounding the pituitary gland. Microscopic examination reveals areas of necrosis.**

Harry J. Schneider, M.D., French Camp, Calif.

ANSWER.—Munslow, Haymond and Crawford (*Arch. Path.* **34**:431-434 [Aug.] 1942) reported the case of a man who died three hours after injury to his head. A basal skull fracture, which extended into the sella turcica, and areas of hemorrhage into the substance of the posterior lobe of the pituitary body were found on necropsy. In this article references are given to reports of similar cases observed by Simmonds, Schmorl and Cushing. Reverchon, Worms and Rouquier reported a case (*Presse méd.* **29**:741-743 [Sept. 17] 1921) in which sclerosis and atrophy of the pituitary body were found several months after a basal skull fracture. It would not be unreasonable to assume that the period of survival after injury might determine whether hemorrhage, necrosis or fibrosis and atrophy would be the predominating histologic characteristic.

FLUORESCENT LIGHTING

To the Editor:—**What are the advantages and disadvantages of fluorescent lamp illumination for the classroom?**

Dorothy Donley-Dowd, M.D., Washington, D. C.

ANSWER.—Fluorescent lighting has the advantage of costing less per candle so that more light is furnished per dollar of cost. It is easy to install it so that there will be minimum of glare. It gives less heat, which is sometimes important in hot weather.

Most of the complaints are traceable to improper installation, and therefore improper distribution of the light. There is some uncorroborated evidence that exposure to fluorescent lighting reduces dark adaptation unduly.

IMMUNIZING INJECTION INTERVALS

To the Editor:—**In immunization of infants with the triple vaccine, pertussis, diphtheria and tetanus, mixtures how long can the intervals between injections be lengthened before it is advisable to start the series over again?**

Abraham D. Cohen, M.D., New York.

ANSWER.—Even though the intervals are two to three months, a satisfactory degree of immunity may follow the final injection. The antibody response to prophylactic injections is not identical in all persons. Hence the optimum for injections is not always easy to determine.

HYDROCEPHALUS

To the Editor:—A young woman had a full term, hydrocephalic stillbirth as the result of her first pregnancy. Her general health is excellent. History of virus infection during pregnancy, radiation therapy, trauma, syphilis and other known complicating factors are absent. What is the probability that hydrocephalus or other anomalies will occur in subsequent pregnancies?

M.D., New York.

ANSWER.—The possibility of the occurrence of hydrocephalus in the subsequent children of a woman whose first child suffered from this condition cannot be denied, but it is uncommon. Usually when one child has a hydrocephalus the other children are normal. Grulee and Bonar (The Newborn; Diseases and Abnormalities, Clinical Pediatrics Series. New York, D. Appleton & Co., 1926) mention the possibility of hydrocephalus occurring in several members of the same family. In general, unless there is a family history to the contrary, it is advisable to reassure patients that in having additional children they run no greater risk that subsequent children will be similarly affected than do all other parents.

ACTINOMYCOSIS

To the Editor:—A young man on the plains of Colorado picked up a small pebble to roll around in his mouth. Later his left jaw began to enlarge. The condition was diagnosed as actinomycosis. He was operated on several times, which has to a certain extent deformed his jaw. He has had x-ray treatment until all the hair on that side of his head has disappeared. Once in a while nodules form on the left side of his head, above his ear. He is otherwise healthy. I am using compresses of bichloride 1:1,000 on the side of his head, night and morning, and intravenous injections of oxophenarsine hydrochloride. The larger nodules have softened, and some have disappeared under this treatment. Can you suggest anything that might be of benefit?

M.D., California.

ANSWER.—An accurate diagnosis should be made by demonstrating actinomycetes in the purulent discharge from the lesions. If the condition is actinomycosis, the best treatment is 1,000,000 units of penicillin daily for three weeks. It may be necessary to repeat this treatment after an interval of three months.

MILK DIET

To the Editor:—A machine shop worker, 71 years old and apparently well, drinks 4 quarts of milk every day. May his intake of calcium be harmful?

M.D., Massachusetts.

ANSWER.—Serious elevation of the serum calcium does not occur even under the most favorable conditions for absorption unless an excess of vitamin D or parathyroid hormone is present. Overdosage of these may raise the serum calcium to abnormally high levels and result in metastatic calcification and other toxic effects. Excess calcium is excreted. Apparently the patient will not suffer any deleterious effects from the consumption of the calcium contained in four quarts of milk (approx. 4.5 Gm.), but the increased fluid intake should have consideration.

IMMUNITY TO SNAKE BITE

To the Editor:—A statement was made in a group discussion that pregnant women are immune to rattle snake venom. The physician stated that he practiced in a rattle snake country where such bites were frequent. He said that all the doctors in that territory knew this and did not believe it necessary to give anti-venin if the victim were a pregnant woman. Is this true?

F. L. Chenault, M.D., Decatur, Ala.

ANSWER.—It is unlikely that a pregnant woman would be immune to rattle snake venom. This query was discussed with several well known authorities on toxic properties of venoms such as Dr. Goss and Mr. Brayton Eddy, Curator of Reptiles of the New York Zoological Society. Also, the matter was discussed with Dr. Bogert, Herpetologist at the American Museum of Natural History. They all agreed that such a possibility was unlikely. Colonel Crimmins, the well known authority on snake venoms, also concurs with these opinions.

MYELOGRAMS

To the Editor:—Of what use are myelograms for diagnosis of injuries of the back and what is the incidence of increased pain in the back following studies of this kind?

J. M. Hesser, M.D., Benson, Ariz.

ANSWER.—Localization of intraspinal lesions such as protruded intervertebral disks, neurofibromas or other tumors can be most accurately obtained by the use of myelograms. Opaque mediums, which are relatively nonirritating and may be absorbed if not removed, such as "pantopaque" (ethyl iodophenylundecylate), can be used safely and without causing increased pain in the back.

ENDOMETRIOSIS

To the Editor:—In the June 5 *Journal* is a query by Dr. M. Karasek on endometriosis. I read the answer with a great deal of interest because the statement is made, "Therefore, the use of estrogen is usually contraindicated in any phase of this disease."

I have been experimenting with testosterone propionate in endometriosis for three years and have never caused endometrial implants to disappear completely, but after changing over to estrogen (diethylstilbestrol), giving large and increasing doses for six to nine to twelve months, my associates and I have found by biopsies and by repeated pelvic examination and culdoscopy that in patients taking such doses of diethylstilbestrol endometriosis was caused to atrophy completely if the drug was continued long enough. After discontinuance of diethylstilbestrol some of the patients became pregnant and some had children.

The advantages of diethylstilbestrol over male hormones are that there is no development of hirsutism or coarseness of voice. There is nausea when the patient starts to take the drug, but that will pass off in four to five days if the drug is continued.

The recommended dose is 0.5 mg. for three nights, 1.0 mg. for three nights, 2.0 mg. for three nights, 3.0 mg. for three nights, 4.0 mg. for three nights, 5.0 mg. for three nights, 10.0 mg. for three nights, 15.0 mg. for three nights, 20.0 mg. for three nights, and every third night an increase of 5 mg. If the patient bleeds, give 25 mg. to 50 mg. every fifteen minutes until the bleeding stops. Do not let the patient bleed for three to six to nine months, according to the severity of pain and the extent of the endometriosis.

I recommend this treatment for use after cancer has been ruled out in many cases instead of surgical or roentgen treatment. Given presurgically it makes surgery easier because of atrophy of ovaries. Diethylstilbestrol may be given to patients with associated disease that must be removed. When diethylstilbestrol is discontinued the patients usually return to normal menstruation, ovulate and are free from almost all pain.

Karl John Karnaky, M.D., Medical Arts Bldg., Houston, Tex.

ERYTHROBLASTOSIS

To the Editor:—We feel it necessary to correct the misunderstanding which is likely to arise from the answer given in your queries page to Dr. R. E. Heerens' question regarding spasticity following apparently cured erythroblastosis fetalis (The Journal, October 2, page 394).

It is not that there is "an extremely high incidence of infantile jaundice and blood incompatibility among children suffering from mental deficiency, athetosis, spasticity and other cerebral defects of early infancy." The data presented in the articles given as references for this statement do not justify such a generalization. Actually (Yannet, H., and Lieberman, R.: J. A. M. A. 130:335-340 [Feb. 9] 1946) it was found that in a group of one hundred and nineteen mental defectives classified as "undifferentiated," in that there was no clearly indicated etiology or typical clinical picture (such as mongolism), the probable incidence of damage due to Rh blood group incompatibility was not higher than 8 per cent.

In short, the study referred to indicates that an appreciable but small number of "undifferentiated" mental defectives will have a background of blood group incompatibility with respect to the Rh factor.

It is not to be inferred from this that the incidence of cerebral damage is high in erythroblastotic infants who have made an apparently satisfactory response to treatment in the newborn period. The reverse is true. The incidence of subsequent cerebral defect in infants surviving erythroblastosis fetalis in the newborn period is only about 8 per cent. This need not be considered a serious risk by mothers sensitized to the Rh factor who want to try to enlarge their families, although the occurrence of a badly damaged child may be tragic in any individual instance.

It is our belief from personal observation of many such infants that the clinical signs of brain injury are uniformly present in the first week of life in babies destined to be defective in the future, and that the signs are unmistakable in most instances. They consist mainly of varying degrees of lethargy, opisthotonos, and spasms of rigidity, typically occurring with arms extended and inwardly rotated and fists clenched. If an infant examined daily by an experienced observer survives the first week without showing such signs, prognosis for future normal development is excellent.

Finally, it should be mentioned that the future development of some babies with brain damage due to erythroblastosis fetalis may be surprisingly good. Ultimately normal function will occasionally be seen in a child more or less severely handicapped in early infancy, particularly when the defect seems largely confined to the motor system.

Victor C. Vaughan III, M.D.
Fred H. Allen Jr., M.D.
Louis K. Diamond, M.D.

Boston.

SUBSTERNAL PAIN

To the Editor:—In Queries and Minor Notes in the July 17, 1948 Journal, page 1097, under the title "Substernal Pain," the question was raised whether sea food is poor in cholesterol. In addition to the data by R. Okey included in your answer, I submit further analytical data which may be of interest.

As the dietetic importance of canned fish is increasing steadily, my associates and I investigated the total cholesterol content of canned fish by the method of Sperry and Brand and Sobel and Meyer, and found the following values. Values are expressed on the basis of dry substances:

Fish	Percentage	Fish	Percentage
Yellowfin tuna	0.149	Pacific mackerel	0.24
Bluefin tuna	0.172	Horse mackerel	0.27
Albacore	0.144	Sardines	0.19
Skipjack	0.180		

In comparison with the values for round beef (0.4 per cent), veal shank (0.5 per cent), calf liver (1.42 per cent), whole egg (1.8 per cent), the cholesterol content of canned fish seemed to be particularly low.

E. Geiger, M.D., Terminal Island, Calif.